1. Khettara Number D-001 - (G-1)	2. Name of commune Fezna (G-2)
	4. Location of khettara X = <u>589277.25</u> (G-4-1)
3. Name of khettara Alouiya (G-3)	4. Location of knettara $X = 389277.251 (G-4-1)$ Y = 104340.24 (G-4-2)
5. Number of families who [120] (G-5-2) families have khettara water right	families 9. Histry of discharge 1967: tarie
6. Number of beneficialies 120 (G-6-2) fa	families of khettara
7. Cycle of kehttara water right 15 (G-7-1)	days
8.Discharge of khettara (latest) 0 (G-8) lit	lit/sec (I-10)
10. History of khettara water flow 1 (I	(I-9)
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	No water in the dry season in the past five years he khettara has water flow, but the discharge of khettara is reduced each ear in the recent five years. he discharge of the khettara is constant he discharge of the khettara is increased
11. Total area of farmland 60 ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate	
	Ves (1), If yes, Name of G-22
18. Situation of khettara Length	h (m) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in0catchment area and conduit5900	E-1-1-1)0 (E-1-4-1)0 (E-1-5-1)E-1-1-2)3 (E-1-4-2)1.3 (E-1-5-2)
	E-2-1) 1.8 (E-2-2) 0.8 (E-2-3)
Principal and secondary2850 (Eirrigation canal150 (E	E-4-2-1)0.8(E-4-3-1)0.6(E-4-1-1)E-4-2-2)0.5(E-4-3-2)0.6(E-4-1-2)
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open chann	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	2) Construction of public wells for domestic water 2 (G-19-5)
22.Demandes of habitants (Aglicultual and social su	support) Yes (1), No (2)
Agriculture (storage,production, transporttion	School 1 (G-20-
23. Importance of khettara (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khettara	3)
Yes (1), No (2) If no, the reason (G-24) (G-25)	 (1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number D-002 - (G-1)	2. Name of commune Fezna (G-2)
	4. Location of khettara X = 589350.71 (G-4-1)
3. Name of khettara (G-3)	4. Execution of knettara $\chi = 1063330.71 (G-4-7)$ $\gamma = 106142.84 (G-4-2)$
5. Number of families who [120] (G-5-2) families have khettara water right	9. Histry of discharge 1940: tarie
6. Number of beneficialies 120 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	·
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [60] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)10.Facility of electricity and (G-18)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [5000] (E-1-1-	
Khettara as open channel 400 (E-2-1)	1.8 (E-2-2) 0.8 (E-2-3)
Principal and secondary 2850 (E-4-2-	1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal [150] (E-4-2-	2) 0.5 (E-4-3-2) 0.6 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
Gallery in catchm	ent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification Gallery of condui	
(3)Negligible damage by desertification Open channel kh	ettara 🔲 (I-3)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5)
	on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23)	
(1) Unique source for both of potable water and irriga	
(2) Unique source for irrigition(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number D-003 -	2. Name of commune Fezna (G-2)
(G-1)	
3. Name of khettara Jdida (G-3)	4. Location of khettara $X = 589121.11$ (G-4-1) Y = 106153.09 (G-4-2)
5. Number of families who [120] (G-5-2) families have khettara water right	9. Histry of discharge 1972: tarie
6. Number of beneficialies 120 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	-
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [60] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	······································
catchment area and conduit 6000 (E-1-1-	
Khettara as open channel 500 (E-2-1)	
Principal and secondary 2850 (E-4-2-	, , , ,
irrigation canal [150] (E-4-2-	2) 0.5 (E-4-3-2) 0.6 (E-4-1-2)
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	t <u>3</u> (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	ettara (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
Agriculture (storage,production, transporttion of pro Rehabilitati	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6)
Ele	ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number D-004 -	2. Name of commune Fezna (G-2)
(G-1)	· · · ·
3. Name of khettara Zamitia (G-3)	4. Location of khettara $X = 589270.89$ (G-4-1) Y = 104167.69 (G-4-2)
5. Number of families who [130] (G-5-2) families have khettara water right	9. Histry of discharge 1965, tarle
6. Number of beneficialies 130 (G-6-2) families	of khettara
7. Cycle of kehttara water right 16 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [112] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-catchment area and conduit 6300 (E-1-1-	1) <u>0</u> (E-1-4-1) <u>0</u> (E-1-5-1)
Khettara as open channel 400 (E-2-1)	
Principal and secondary2200 (E-4-2-irrigation canal300 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it [1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) C	Protection dike against flood 2 (G-19-4) construction of public wells for domestic water 1 (G-19-5)
Rehabilitation of irrigation canal (G-19-3)	Others [1(G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-005 (G-1)		2. Name of commune Fezna (G-2)
· · · · · · · · · · · · · · · · · · ·		4. Location of khettara X = 589255.75 (G-4-1)
3. Name of khettara (G-3)	a	Y = 104090.55 (G-4-2)
5. Number of families who 13 have khettara water right	0 (G-5-2) families	9. Histry of discharge 1973: tarie
6. Number of beneficialies 13	0 (G-6-2) families	of khettara
7. Cycle of kehttara water right	6 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	112 ha \-1)	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	0 (E-1-1-1) 8000 (E-1-1-2)) <u>0</u> (E-1-4-1) <u>0</u> (E-1-5-1)
Khettara as open channel	300 (E-2-1)	0.8 (E-2-2) 0.6 (E-2-3)
Principal and secondary irrigation canal	2200 (E-4-2-1) 300 (E-4-2-2)	
19. Rehabilitation Rehabilitation leng	gth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	, , ,	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water reso	urces)	Yes (1), No (2)
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 2 (G-19-4 nstruction of public wells for domestic water 1 (G-19-5 Others 1 (G-19-6
22.Demandes of habitants (Aglicultual	and social support	.) Yes (1), No (2)
Agriculture (storage,production,	transporttion of proc Rehabilitation	School 1 (G-20 duct , etc.) 1 (G-20-1) Sanitary system 1 (G-20
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigition (3) Main source for irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-006 (G-1)		2. Name of commune	Fezna (G-2)
3. Name of khettara Charkia (G-3)		4. Location of khettara	X = 589079.14 (G-4-1) Y = 103777.86 (G-4-2)
E Number of femilies who		9. Histry of discharge	1969: tarie
6. Number of beneficialies 128	G-6-2) families	of khettara	
7. Cycle of kehttara water right 16	6 (G-7-1) days		
8.Discharge of khettara (latest)) (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the discha recent five years. rge of the khettara is constant rge of the khettara is increased	e years arge of khettara is reduced each
11. Total area of farmland [IA-	120 ha 1)	12. Irrigated area by the	khettara <u>O</u> ha (IA-3)
	appropriate (1) not appropriate (2)	14.The condition of sch	ools 2 appropriate (1) (G-16) not appropriate (2)
	appropriate (1) not appropriate (2)	16.Facility of electricity a telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1),	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectior hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in	<u>0</u> (E-1-1-1)) <u> </u>	-1) <u> </u>
catchment area and conduit	6000 (E-1-1-2)		
Khettara as open channel	500 (E-2-1)	<u>1.6</u> (E-2-2	······································
Principal and secondary irrigation canal	<u>3000</u> (E-4-2-1) 0 (E-4-2-2)		
19. Rehabilitation Rehabilitation leng khettara	th of (M-7)	m) Rehabilitation le irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification			
(2)Partial damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>1</u> (I-2) Irr	egulation pond (I-5) igation canals (I-7)
21.Demandes of habitants (water resou	irces)	Yes (1), No (2)	
Rehabilitation of khettara 1	(G-19-1)	Protection dil nstruction of public wells for	ke against flood 2 (G-19-4)
Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)		domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual a	and social support) Yes (1), No (2)	
Agriculture (storage,production, t	Rehabilitation		School 1 (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara (1) Unique source for both of pota (2) Unique source for irrigition (3) Main source for irrigation	(G-23) able water and irrigation	on (4) Partial source for (5) Supplementary so (6) Neglected	irrigation
24. Possibility of extension of khettara Yes (1), No (2) If no, the r (G-24)		(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number D-007 (G-1)		2. Name of commune Fezna (G-2)	
3. Name of khettara Baham (G-3)	iouya	4. Location of khettara $X = 589756.87$ (G-4-1) Y = 102656.6 (G-4-2)	
E Number of femilies who	8 (G-5-2) families	9. Histry of discharge 1950: tarie	
6. Number of beneficialies 12	28 (G-6-2) families	of khettara	
7. Cycle of kehttara water right	6 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased	
11. Total area of farmland	120 ha \-1)	12. Irrigated area by the khettara [0]ha (IA-3)	
13. The condition of roads (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2))
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	:)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit	0 (E-1-1-1) 4600 (E-1-1-2)) <u>0</u> (E-1-4-1) <u>0</u> (E-1-5-1)	
Khettara as open channel	<u>500</u> (E-2-1)	<u>1.5 (E-2-2)</u> (E-2-3)	
Principal and secondary irrigation canal	3000 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation len khettara	gth of (M-7)	m) Rehabilitation length of principal (n irrigation canal (M-8)	n)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)	,
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 2 (G-19- nstruction of public wells for domestic water 1 (G-19- Others 1 (G-19-	-5)́
22.Demandes of habitants (Aglicultual	and social support	t) Yes (1), No (2)	
Agriculture (storage,production	, transporttion of proc Rehabilitation	School 1 (G-2 duct , etc.) 1 (G-20-1) Sanitary system 1 (G-2 n of roads 1 (G-20-2) Hospital 1 (G-2	20-4) 20-5) 20-6) 20-7)
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape (3)Existence of other khettara (2)Prohibited by law (4)Others	IS

1. Khettara Number D-008 - (G-1)	2. Name of commune Fezna (G-2)
	4. Location of khettara X = <u>588789.73</u> (G-4-1)
3. Name of khettara Yahyaouiya (G-3)	4. Location of knettara $X = 103978.56$ (G-4-1) Y = 103978.56 (G-4-2)
5. Number of families who 128 (G-5-2) families have khettara water right	9. Histry of discharge 1940: tarie
6. Number of beneficialies 128 (G-6-2) families	of khettara
7. Cycle of kehttara water right 16 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discharge	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [120] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	
catchment area and conduit 6700 (E-1-1-2	
Khettara as open channel 500 (E-2-1)	1.7 (E-2-2) 0.8 (E-2-3)
Principal and secondary 3000 (E-4-2-	1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal (E-4-2-2	
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m)
khettara (M-7)	irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5)
	Image: Construct supply Image: Constru
23. Importance of khettara (G-23)	
(1) Unique source for both of potable water and irrigat	
(2) Unique source for irrigition(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number D-009 - (G-1)	2. Name of commune Fezna (G-2)
(G-1)	
3. Name of khettara Sadguia (G-3)	4. Location of khettara $X = 588726.38$ (G-4-1) Y = 99262.1 (G-4-2)
5. Number of families who 128 (G-5-2) families have khettara water right	9. Histry of discharge 1930: tarie
6. Number of beneficialies 128 (G-6-2) families	of khettara
7. Cycle of kehttara water right 16 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	1) 0 (E-1-4-1) 0 (E-1-5-1)
catchment area and conduit 4500 (E-1-1-2	
Khettara as open channel [4] (E-2-1)	<u>1.4</u> (E-2-2) <u>0.7</u> (E-2-3)
Principal and secondary 3000 (E-4-2-	1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification Gallery of conduition	
(3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 1 (G-20-7)
22 Importance of khottere	
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-010 - (G-1)		2. Name of commune Fezna (G-2)
3. Name of khettara El Maatlaou (G-3)		4. Location of khettara $X = 589284.99$ (G-4-1) Y = 103773.55 (G-4-2)
5. Number of families who 120 (G-5-2 have khettara water right) families	9. Histry of discharge 1940: tarie
6. Number of beneficialies 120 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
(2)No water in the last two-decade(6)(3)No water in the last decade(4)No water in the past five years(7))The khettar year in the)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [60] ha		12. Irrigated area by the khettara []ha (IA-3)
13. The condition of roads 2 appropria (G-15) not appropria		14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropria (G-17) not appropria		16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21)	Yes (1), No (2)	If yes, Name of G-22
18. Situation of khettara	igth (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in C	(E-1-1-1)) 0 (E-1-4-1) 0 (E-1-5-1)
	(E-1-1-2	
Khettara as open channel 400		1.8 (E-2-2) 0.7 (E-2-3)
Principal and secondary 2850	(E-4-2-1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
	(E-4-2-2	
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m)
lub attanc	(M-7)	irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification	n catchme	
(3) Negligible damage by desertification	of conduit annel khe	3 (I-2) Irrigation canals (I-7) (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-1	9-1)	Protection dike against flood 1 (G-19-4)
Installing pump 2 (G-1 Rehabilitation of irrigation canal 1 (G-1		nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and soci	al support	
Agriculture (storage,production, transport	ion of proc	School 1 (G-20-4) Juct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5)
	ehabilitatio	fuct etc.) (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G	-23)	
(1) Unique source for both of potable water	,	on (4) Partial source for irrigation
(2) Unique source for irrigtion (3) Main source for irrigation	0	(5) Supplementary source for irrigation(6) Neglected
24. Possibility of extension of khettara	1	
Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-011 - (G-1)	2. Name of commune Fezna (G-2)
3. Name of khettara El Omaria (G-3)	4. Location of khettara X = <u>592504.01</u> (G-4-1) Y = <u>102376.91</u> (G-4-2)
5. Number of families who 136 (G-5-2) families have khettara water right	9. Histry of discharge 1999: tarie
6. Number of beneficialies 136 (G-6-2) families	of khettara
7. Cycle of kehttara water right 17 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 200 (E-1-1-	
catchment area and conduit 7000 (E-1-1-2	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 1000 (E-4-2-	
irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	on of roads 1 (G-20-2) Hospital 2 (G-20-6)
Ele	ctric supply 2 (G-20-3) Others 2 (G-20-7)
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

	· · · · · · · · · · · · · · · · · · ·	
3. Name of khettara Zarguia 4. Location of khettara X = 592846.18 (G-4-1) Y = 102192.21 (G-4-2) 5. Number of families who have khettara water right 140 (G-5-2) families of khettara water right 9. Histry of discharge of khettara [972: tarie 6. Number of beneficialies 140 (G-5-2) families 7. Cycle of kehttara (atest) 0 (G-8) it/sec 10. History of khettara (atest) 0 (G-8) it/sec (I-10) 10. History of khettara (atest) 0 (G-8) (I-9) (I)No water in the last boo-decade (3)No water in the last boo-decade (3)No water in the last decade (4)No water in the past five years (G) No water in the sec the years. (G) The discharge of the khettara is increased 11. Total area of farmland 25 ha (IA-1) 12. Irrigated area by the khettara (atera) have partiale (2) 13. The condition of roads 2 sepropriate (1) (G-17) not appropriate (2) 14. The condition of schools 2 appropriate (2) 15. Sanitary service 2 sepropriate (1) (G-17) not appropriate (2) 15. Facility of electricity and (G-17) not appropriate (2) 14. The condition of schools 2 appropriate (2) 16. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m) Gallery of khettara Gool (E-4-2-1) 0.6 (E-4-3-1) 0.5 ((E-4-1-1))		
0.1. Number of families who have khettara water right 140 (G-5-2) families of khettara water right 9. Histry of discharge of khettara water right 140 (G-6-2) families of khettara 1. Number of beneficialies 140 (G-6-2) families of khettara water right 9. Histry of discharge of khettara 1972: tarie 8. Discharge of khettara (latest) 0 (G-8) 11. / deys 1 10. Histry of khettara water flow 1 1 1.09 10. History of khettara water right 1 1.09 1.00		
have khettara water right 140 (G-5-2) Immass 9. Histry of discharge 1972: tarle 6. Number of beneficialles 140 (G-6-2) families of khettara 1 1 7. Cycle of kehttara water right 141 (G-7-1) days of khettara (I-10) 1 10. History of khettara water flow 1 (I-9) (I-10) (I-10) (I-10) 10. History of khettara water flow 1 (I-9) (I-10) (I-10) (I-10) 11. Total area of farmland 25 ha (I2-15) not appropriate (1) (IA-3) (IA-3) 13. The condition of roads 2 appropriate (1) (IA-3) (IA-3) 13. The condition of roads 2 appropriate (1) (IA-1) (IA-3) 14. Total area of farmland (IA-1) 14. The condition of schools 2 appropriate (1) (IA-1) (IA-1) (IA-1) (IA-3) (IA-3) (IA-3) 13. The condition of roads 2 appropriate (1) (IA-1) (IA-3) (IA-3) 14. Total area of farmland (IA-1) (IA-1) (IA-1) (IA-3) (IA-3)	(G-3)	
6. Number of bereficialities 140 (G-72) minutes 7. Cycle of kehttara water right 141 (G-7-1) days 8. Discharge of khettara (attest) 0 (G-8) lit/sec 10. History of khettara water flow 1 (I-9) (1)No water fine last wo-decade (3)No water in the past five years (I-10) 11. Total area of farmland 25 ha (I-1) 12. Irrigated area by the khettara is reduced each year in the repropriate (2) 13. The condition of roads 2 appropriate (1) (G-17) not appropriate (2) 14. The condition of schools 2 appropriate (1) (G-16) not appropriate (2) 15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2) 15.Facility of electricity and (G-21) No (2) 1 appropriate (2) 16. The condition of khettara Length (m) Section of khettara (average) hight(m) width (m) Gallery of khettara (Gallery in catchment area and conduit 150 (E-1-1-1) 1.6 (E-1-4-1) 0.5 (E-1-5-2) Nchettara as open channel 800 (E-2-1) 0.5 (E-1-4-2) 0.5 (E-1-5-1) 19. Rehabilitation Rehabilitation length of khettara Gallery in catchment area Gallery in catchment area Gallery in catchment area Gallery in catchment area Gallery in catchment	[4()](()-7) intrines	er i neu j er alleen al ge
8. Discharge of khettara (latest) 0 (G-8) lit/sec (I-10) 10. History of khettara water flow 1 (I-9) (I-10) (1)No water in the last two-decade (3)No water in the last two-decade (4)No water in the last decade (4)No water in the last decade (6)The khettara is increased 11. Total area of farmland 25 ha 12. Irrigated area by the khettara (G-15) not appropriate (2) 13. The condition of roads 2 appropriate (1) (G-17) 16. Facility of electricity and (G-17) 1 14. Existence of Association 1 12. Irrigation canal 1 0.5 (E-1-5-1) 15. G	6. Number of beneficialies 140 (G-6-2) families	of knettara
10. History of khettara water flow 1 (I-9) (1)No water in the last two-decade (3)No water in the last two-decade (4)No water in the last two-decade (3)No water in the past five years (1-9) 11. Total area of farmland 25 ha (IA-1) 12. Irrigated area by the khettara is increased 13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2) 14. The condition of schools 2 appropriate (2) 15.Sanitary service 2 appropriate (1) (G-16) not appropriate (2) 16. Facility of electricity and telecomunication 1 appropriate (1) (G-18) not appropriate (2) 17. Existence of Association Yes (1), (G-21) No (2) If yes, Name of Association (G-22) 18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m) Gallery of khettara (Gallery in catchment area and conduit 1500 (E-1-1-1) 1.6) (E-1-4-1) 0.5) (E-1-5-2) No taper inter area and conduit 1500 (E-2-1) 1.5) (E-2-2) 0.5 (E-4-1-2) 0.5) (E-4-1-2) 19. Rehabilitation Rehabilitation length of (Partial damage by desertification (Partial damage by desertification (Partial damage by desertificat	7. Cycle of kehttara water right 14 (G-7-1) days	
(1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last two-decade (3)No water in the last two-decade (4)No water in the last two-decade (6)No (1)No (2) (6)No (2) (6)No (2) (6)No (2)No (2) (6)No (2) (6)No (2) (6)No (2) (6)No (2) (6)No (2) (6)No (2) (6)No (2) (6)No	8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
(2)No water in the last two-decade (3)No water in the bast two-decade (4)No water in the past five years (6)The khettara has water flow, but the discharge of khettara is constant (8)The discharge of the khettara is constant (8)The discharge of the khettara is constant (8)The discharge of the khettara is increased 11. Total area of farmland 25 ha (IA-1) 12. Irrigated area by the khettara (B)The discharge of the khettara is increased 13. The condition of roads 2 appropriate (1) (G-15) 14. The condition of schools 2 appropriate (2) 15.Sanitary service 2 appropriate (2) 16. Facility of electricity and (G-17) 1 appropriate (2) 17. Existence of Association Yes (1), No (2) Yes (1), If yes, Name of Association 1 appropriate (2) 18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m) Gallery of khettara (Gallery in catchment area and conduit 1550 (E-1-1-1) 1.6 (E-1-4-1) 0.5 (E-1-5-2) 19. Rehabilitation length of khettara Methatara Gallery in catchment area Gallery of conduit Gold (E-2-2) 0.5 (E-4-1-1) 19. Rehabilitation Rehabilitation length of khettara Gallery in catchment area Gallery of conduit (I-1) Rehabilitation length of principal (H-7) (M-8) 20. Influence of desertification (1)Significant damage	10. History of khettara water flow 1 (I-9)	
Image: construct of the second sec	(2)No water in the last two-decade(6)The khettar(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant
Image: Generative service Image: Generative service <thimage: generative="" service<="" th=""> Image:</thimage:>		
Instruction Instruction Image: Construction I		
In Existence of Association (G-21) No (2) Association (G-22) 18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m) Gallery of khettara (Gallery in catchment area and conduit 150 (E-1-1-1) 1.6 (E-1-4-1) 0.5 (E-1-5-1) Khettara as open channel 800 (E-2-1) 1.7 (E-1-4-2) 0.5 (E-1-5-2) Khettara as open channel 800 (E-2-1) 1.5 (E-2-2) 0.5 (E-4-1-1) Principal and secondary irrigation canal 600 (E-4-2-1) 0.6 (E-4-3-1) 0.5 (E-4-1-2) 19. Rehabilitation Rehabilitation length of khettara (m/7) (m) Rehabilitation length of principal (m) (1)Significant damage by desertification (2)Partial damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) 3Negligible damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) 21. Demandes of habitants (water resources) Yes (1), No (2) Protection dike against flood 1 (G-19-4) 22. Demandes of habitants (Aglicultual and social support) <	not appropriate (2)	tale appropriate (i)
Length (m)hight(m)width (m)Gallery of khettara (Gallery in catchment area and conduit150 (E-1-1-1)1.6 (E-1-4-1)0.5 (E-1-5-1)Cathement area and conduit5550 (E-1-1-2)1.7 (E-1-4-2)0.5 (E-1-5-2)Khettara as open channel800 (E-2-1)1.5 (E-2-2)0.5 (E-2-3)Principal and secondary irrigation canal600 (E-4-2-1)0.6 (E-4-3-1)0.5 (E-4-1-1)19. Rehabilitation khettara0 (E-4-2-2)0 (E-4-3-2)0 (E-4-1-2)19. Rehabilitation khettara(M-7)Rehabilitation length of principal irrigation canal(m) (M-8)20. Influence of desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (3)Negligible damage of habitants (water resources)Gallery in catchment area Gallery of conduit 0pen channel khettara(I-1) Protection dike against flood 1 (I-7)1 (G-19-4) 2 (G-19-5)21. Demandes of habitants (water resources)Yes (1), No (2)Yes (1), No (2)Rehabilitation of irrigation canal 1 (G-19-3)Construction of public wells for domestic water 2 (G-19-6)1 (G-20-4)22. Demandes of habitants (Aglicultual and social support)Yes (1), No (2)School 1 (G-20-4)		
Gallery of khettara (Gallery in catchment area and conduit 150 (E-1-1-1) 1.6 (E-1-4-1) 0.5 (E-1-5-1) Khettara as open channel 800 (E-2-1) 1.7 (E-1-4-2) 0.5 (E-1-5-2) Khettara as open channel 800 (E-2-1) 1.5 (E-2-2) 0.5 (E-2-3) Principal and secondary irrigation canal 600 (E-4-2-1) 0.6 (E-4-3-1) 0.5 (E-4-1-1) 19. Rehabilitation Rehabilitation length of khettara (M-7) Rehabilitation length of principal (M-8) (m) 20. Influence of desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (2)Partial damage by desertification (2)Partial damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (2)Partial damage by desertification	18 Situation of khettara	
catchment area and conduit5550 (E-1-1-2)1.7 (E-1-4-2)0.5 (E-1-5-2)Khettara as open channel800 (E-2-1)1.5 (E-2-2)0.5 (E-2-3)Principal and secondary irrigation canal600 (E-4-2-1)0.6 (E-4-3-1)0.5 (E-4-1-1)0 (E-4-2-2)0 (E-4-2-2)0 (E-4-3-2)0 (E-4-1-2)19. RehabilitationRehabilitation length of khettara(m) (M-7)Rehabilitation length of principal irrigation canal(m) (M-8)20. Influence of desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification (G-19-1)Gallery of conduit (G-19-1)1 (I-2) Protection dike against flood (I-3)(I-7)21. Demandes of habitants (water resources) Rehabilitation of khettaraYes (1), No (2)Yes (1), No (2)(G-19-4) (G-19-3)22. Demandes of habitants (Aglicultual and social support)Yes (1), No (2)School(G-19-6)22. Demandes of habitants (Aglicultual and social support)Yes (1), No (2)School(G-20-4)	Gallery of khettara (Gallery in 150 (E-1-1-1	· · · · · · · · · · · · · · · · · · ·
Khettara as open channel 800 (E-2-1) 1.5 (E-2-2) 0.5 (E-2-3) Principal and secondary irrigation canal 600 (E-4-2-1) 0.6 (E-4-3-1) 0.5 (E-2-3) 19. Rehabilitation Rehabilitation length of khettara (m) (M-7) Rehabilitation length of principal irrigation canal (m) (M-8) 20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification Gallery in catchment area Gallery of conduit (I-1) Regulation pond (I-2) Irrigation canals (I-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Protection dike against flood (G-19-4) (G-19-4) (G-19-3) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School (G-19-6) (G-19-6)		
irrigation canal 0 (E-4-2-2) 0 (E-4-3-2) 0 (E-4-1-2) 19. Rehabilitation Rehabilitation length of khettara (m) (M-7) Rehabilitation length of principal (M-8) (m) (M-8) 20. Influence of desertification Gallery in catchment area (I-1) Regulation pond (I-5) (I-5) (2)Partial damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Protection dike against flood 1 (G-19-4) Rehabilitation of irrigation canal (G-19-2) Construction of public wells for domestic water 2 (G-19-5) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)		
19. Rehabilitation Rehabilitation length of khettara (M-7) Rehabilitation length of principal (M-8) 20. Influence of desertification (M-7) (M-7) Rehabilitation length of principal (M-8) 20. Influence of desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (3)Negligible damage by desertification Gallery of conduit (I-2) Irrigation canals (I-7) (I-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Protection dike against flood (I-3) (G-19-4) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School (I-(G-20-4))	Principal and secondary 600 (E-4-2-1) 0.6 (E-4-3-1) 0.5 (E-4-1-1)
khettara (M-7) Internationation renginer principal (M-7) 20. Influence of desertification (M-7) irrigation canal (M-8) (1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Protection dike against flood 1 (G-19-4) Rehabilitation of khettara 1 (G-19-2) Construction of public wells for domestic water 2 (G-19-5) Rehabilitation of irrigation canal 1 (G-19-3) Yes (1), No (2) 2 (G-19-6) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)	irrigation canal [10] (E-4-2-2) 0 (E-4-3-2) 0 (E-4-1-2)
20. Influence of desertification (III Y) Imgation output (III O) (1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-7) (I-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Yes (1), No (2) (G-19-4) (G-19-2) Construction of public wells for domestic water (G-19-5) (G-19-5) Rehabilitation of irrigation canal 1 (G-19-3) Yes (1), No (2) (G-19-6) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)	lub attaine	,
(1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3) (I-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Protection dike against flood 1 (G-19-4) Installing pump (G-19-2) Construction of public wells for domestic water (G-19-5) (G-19-6) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)		
(1)Significant damage by desertification Gallery of conduit I (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara I (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara I (I-2) Irrigation canals II-7) 21.Demandes of habitants (water resources) Yes (1), No (2) Yes (1), No (2) Rehabilitation of khettara I (G-19-1) Protection dike against flood I (G-19-4) Installing pump I (G-19-2) Construction of public wells for domestic water I (G-19-5) Rehabilitation of irrigation canal I (G-19-3) Yes (1), No (2) Yes (1), No (2) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School I (G-20-4)	Gallery in catchme	ent area (I-1) Regulation pond (I-5)
21.Demandes of habitants (water resources) Yes (1), No (2) Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3) Protection dike against flood 1 (G-19-4) 2 (G-19-2) Construction of public wells for domestic water 2 2 (G-19-3) 0thers 2 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1	(2)Partial damage by desertification (3)Nealigible damage by desertification (3)Nealigible damage by desertification	(I-2) Irrigation canals (I-7)
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4) Installing pump 2 (G-19-2) Construction of public wells for domestic water 2 (G-19-5) Rehabilitation of irrigation canal 1 (G-19-3) Construction of public wells for domestic water 2 (G-19-6) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)		
Installing pump 2 (G-19-2) Construction of public wells for domestic water 2 (G-19-5) Rehabilitation of irrigation canal 1 (G-19-3) Construction of public wells for domestic water 2 (G-19-5) 22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)		Protection dike against flood 1 (G-19-4)
School 1 (G-20-4	Installing pump 2 (G-19-2) Cor	
	22.Demandes of habitants (Aglicultual and social support	/
		duct , etc.) 2 (G-20-1) Sanitary system 2 (G-20-5)
23. Importance of khettara (G-23)	23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected 	(1) Unique source for both of potable water and irrigation(2) Unique source for irrigtion	(5) Supplementary source for irrigation
24. Possibility of extension of khettara	24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25) (1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others	Yes (1), No (2) If no, the reason	

1. Khettara Number D-013 - (G-1)	2. Name of commune Fezna (G-2)
	· · · · · · · · · · · · · · · · · · ·
3. Name of khettara (G-3)	4. Location of khettara $X = 592846.18$ (G-4-1) Y = 102192.21 (G-4-2)
5. Number of families who 120 (G-5-2) families	9. Histry of discharge 1999: 20 litter/sec 2000: tarie
6. Number of beneficialies 120 (G-6-2) families	of khettara 2000: tarie
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ira has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 200 (E-1-1-1	
catchment area and conduit [5800] (E-1-1-2	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 400 (E-4-2-	
irrigation canal	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchme	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 2 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4) duct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5)
Rehabilitatio	On of roads (G-20-2) Hospital (G-20-6) otric supply (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation 	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number D-014 -	2. Name of commune Fezna (G-2)
(G-1)	
3. Name of khettara Jdida (G-3)	4. Location of khettara $X = 592346.77$ (G-4-1) Y = 102258.39 (G-4-2)
5. Number of families who [120] (G-5-2) families have khettara water right	9. Histry of discharge 1970: tarie
6. Number of beneficialies 120 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [16] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 4600 (E-1-1-	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 400 (E-4-2-	1) 0.4 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal (E-4-2-	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4)
Rehabilitati	oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-015 - (G-1)	2. Name of commune Fezna (G-2)
	· · · · · · · · · · · · · · · · · · ·
3. Name of khettara El Mahdia (G-3)	4. Location of khettara $X = 592464.16$ (G-4-1) Y = 103254.41 (G-4-2)
5. Number of families who [130] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 130 (G-6-2) familie	s of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in t(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each he recent five years. charge of the khettara is constant charge of the khettara is increased
11. Total area of farmland 100 ha (IA-1)	12. Irrigated area by the khettara [] _{ha} (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 2 (E-1-1	
catchment area and conduit 4000 (E-1-1	
Khettara as open channel 0 (E-2-1	
Principal and secondary 500 (E-4-2	-1) 0.6 (E-4-3-1) 0.5 (E-4-1-1)
irrigation canal (E-4-2	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	lit [1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	hettara <u>1</u> (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	
Installing pump 2 (G-19-2)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
2	
22.Demandes of habitants (Aglicultual and social suppo	School 1 (G-20-4)
	roduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) tion of roads 2 (G-20-2) Hospital 1 (G-20-6) ectric supply 2 (G-20-3) Others 2 (G-20-7)
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation 	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-016 - (G-1)	2. Name of commune Fezna (G-2)
(G-1)	
3. Name of khettara Hamria (G-3)	4. Location of khettara X = <u>588141.38</u> (G-4-1) Y = <u>104487.17</u> (G-4-2)
5. Number of families who 128 (G-5-2) families have khettara water right	9. Histry of discharge 1940: tarie
6. Number of beneficialies 128 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	
catchment area and conduit 6200 (E-1-1-2	
Khettara as open channel400 (E-2-1)	<u> </u>
Principal and secondary 3000 (E-4-2-	1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal (E-4-2-2	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-017 - (G-1)	2. Name of commune Fezna (G-2)
(G-1)	
3. Name of khettara Suiguia (G-3)	4. Location of khettara $X = 590496.89$ (G-4-1) Y = 105136.77 (G-4-2)
5. Number of families who	9. Histry of discharge 1930: tarie
6. Number of beneficialies 96 (G-6-2) families	of khettara
7. Cycle of kehttara water right 124 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [13] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [1500] (E-1-1-	
Khettara as open channel1.51.5(E-2-1)	0.5 (E-2-2) (E-2-3)
Principal and secondary 200 (E-4-2-	1) 0.5 (E-4-3-1) 0.5 (E-4-1-1)
irrigation canal (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [1-7] (I-2) Irrigation canals [1-7]
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-018 - (G-1)		2. Name of commune Fezna (G-2)
3. Name of khettara Ghannamia (G-3)		4. Location of khettara $X = 588710.52$ (G-4-1) Y = 102804.27 (G-4-2)
5. Number of families who 128 (G-5-2	2) families	9. Histry of discharge 1940: tarie
6. Number of beneficialies 128 (G-6-2	2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-2	1) days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
(2)No water in the last two-decade(i)(3)No water in the last decade(i)(4)No water in the past five years(i)	6)The khettar year in the 7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [120] ha	a	12. Irrigated area by the khettara [ha (IA-3)
13. The condition of roads (G-15) appropria		14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropria (G-17) not appro	ate (1) opriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21	Yes (1),) No (2)	If yes, Name of G-22
18 Situation of khettara	ngth (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	0 (E-1-1-1)	
) (E-1-1-2)	
) (E-2-1)	1.6 (E-2-2) 0.8 (E-2-3)
Principal and secondary 300	0 (E-4-2-1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
	0 (E-4-2-2) (E-4-3-2) (E-4-1-2)
19. Rehabilitation Rehabilitation length of		
khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification	in catchme	
(3) Negligible damage by desertification	of conduit nannel khe	ttara (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-2	19-1)	Protection dike against flood 1 (G-19-4)
	19-2) Cor 19-3)	nstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and soc	ial support	
Agriculture (storage,production, transport	tion of proc	School 1 (G-20-4) Juct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5)
	Rehabilitatio	fuct etc.) (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G	6-23)	
(1) Unique source for both of potable wate	,	on (4) Partial source for irrigation
(2) Unique source for irrigtion (3) Main source for irrigation	č	(5) Supplementary source for irrigation (6) Neglected
		(0) regisered
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-019 - (G-1)	2. Name of commune Fezna (G-2)
	4. Location of khettara X = <u>591057.63</u> (G-4-1)
3. Name of khettara Diabia (G-3)	4. Location of knettara $X = 102397.4$ (G-4-1) Y = 102397.4 (G-4-2)
5. Number of families who 128 (G-5-2) familie have khettara water right	9. Histry of discharge 1930. tane
6. Number of beneficialies 128 (G-6-2) familie	of khettara
7. Cycle of kehttara water right 16 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in(4)No water in the past five years(7)The disc	er in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1 (G-21) No (2)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1 catchment area and conduit 5200 (E-1-1	I-1) 0 (E-1-4-1) 0 (E-1-5-1)
Khettara as open channel 700 (E-2-1	
Principal and secondary3000 (E-4-2irrigation canal0 (E-4-2	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit [1] (I-2) Irrigation canals [1-7]
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 1 (G-19-5)
Rehabilitation of irrigation canal 1 (G-19-3)	Others (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	
	School 1 (G-20-4) product , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) ation of roads 1 (G-20-2) Hospital 1 (G-20-6) lectric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation	gation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-020 -	2. Name of commune Fezna (G-2)
(G-1)	
3. Name of khettara Lbida (G-3)	4. Location of khettara $X = 588662.72$ (G-4-1) Y = 104313.17 (G-4-2)
5. Number of families who	9. Histry of discharge 1930: tarie
6. Number of beneficialies 96 (G-6-2) families	of khettara
7. Cycle of kehttara water right 12 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 6 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit0 (E-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
Khettara as open channel200 (E-2-1)	<u> </u>
Principal and secondary300 (E-4-2-irrigation canal0 (E-4-2-	
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m)
khettara (M-7)	irrigation canal (M-8)
20. Influence of desertification	ent area (I-1) Regulation pond (I-5)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [1-2] (I-2) Irrigation canals [2] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
	on of roads 1 (G-20-2) Hospital 1 (G-20-6)
	ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigtion (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
(G-24) Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-021 - (G-1)	2. Name of commune Fezna (G-2)
3. Name of khettara Jdida (G-3)	4. Location of khettara $X = 588160.01$ (G-4-1) Y = 102392.77 (G-4-2)
5. Number of families who 128 (G-5-2) families	9. Histry of discharge 1940: tarie
6. Number of beneficialies 128 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 0 (E-1-1-1)	I) 0 (E-1-4-1) 0 (E-1-5-1)
Khettara as open channel 600 (E-2-1)	2 (E-2-2) 0.7 (E-2-3)
Principal and secondary3000 (E-4-2-2)irrigation canal0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	I (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Co	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water 1 (G-19-5)
Rehabilitation of irrigation canal 1 (G-19-2)	Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-022 - (G-1)	2. Name of commune Jorf (G-2)	
	4. Location of khettara X = 592317.57 (G-4	L-1)
3. Name of khettara (G-3)	Y = 101426.44 (G-4)	,
5. Number of families who 300 (G-5-2) fa	9. Histry of discharge 1970: 30 litter/sec	
6. Number of beneficialies 300 (G-6-2) fa	amilies of khettara 1996: tarie	
7. Cycle of kehttara water right [18 (G-7-1)]	days	
8.Discharge of khettara (latest) 0 (G-8) lit	/sec (I-10)	
10. History of khettara water flow 3 (I	I-9)	
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	water in the dry season in the past five years e khettara has water flow, but the discharge of khettara is reduced eac ar in the recent five years. e discharge of the khettara is constant e discharge of the khettara is increased	h
11. Total area of farmland [156] ha (IA-1)	12. Irrigated area by the khettara [0]h (IA-3)	a
13. The condition of roads 2 appropriate (1) (G-15) not appropriate		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate		
	es (1), If yes, Name of (G-22)	
18. Situation of khettara Length	(m) Section of khettara (average) hight(m) width (m)	1
Gallery of khettara (Gallery in catchment area and conduit3000 (E 5400 (E		
+	-2-1) 0 (E-2-2) 0 (E-2-3)	
Principal and secondary6400 (Eirrigation canal0 (E	-4-2-1) 0.4 (E-4-3-1) 0.5 (E-4-1 -4-2-2) 0 (E-4-3-2) 0 (E-4-1	
19. Rehabilitation Rehabilitation length of	(m)Rehabilitation length of principal7)irrigation canal(M-8)) (m)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in ca Gallery of cc Open chann	onduit <u>1</u> (I-2) Irrigation canals	(I-5) (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2 (G	i-19-4) i-19-5) i-19-6)
22.Demandes of habitants (Aglicultual and social su	upport) Yes (1), No (2)	
Agriculture (storage,production, transporttion Rehat	of product , etc.) 2 (G-20-1) Sanitary system 1 (bilitation of roads 1 (G-20-2) Hospital 1 (G-20-4) G-20-5) G-20-6) G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigition (3) Main source for irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)	(1)Constrains in landscape (3)Existence of other khet (2)Prohibited by law (4)Others	taras

1. Khettara Number D-023 - (G-1)	2. Name of commune Jorf (G-2)
3. Name of khettara Boushabia (G-3)	4. Location of khettara $X = 593788.04$ (G-4-1) Y = 101945.41 (G-4-2)
5. Number of families who	· · · · · · · · · · · · · · · · ·
6. Number of beneficialies 386 (G-6-2) famil	lies of khettara
7. Cycle of kehttara water right 22 (G-7-1) day	/5
8.Discharge of khettara (latest) 0 (G-8) lit/se	ec (I-10)
10. History of khettara water flow 4 (I-9)
(2)No water in the last two-decade(6)The kt(3)No water in the last decadeyear in(4)No water in the past five years(7)The di	ater in the dry season in the past five years nettara has water flow, but the discharge of khettara is reduced each n the recent five years. ischarge of the khettara is constant ischarge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	2) 16.Facility of electricity and telecomunication (G-18) not appropriate (1) (G-18)
17. Existence of Association Yes ((G-21) No (2)	
18. Situation of khettara Length (n	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 1200 (E-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [5800] (E-1-	
Khettara as open channel 1000 (E-2-	
Principal and secondary4000 (E-4-irrigation canal0 (E-4-	
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	duit (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 2 (G-19-4) Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social sup	
Agriculture (storage,production, transporttion of	School 1 (G-20-4)
Rehabili	product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) tation of roads 1 (G-20-2) Hospital 1 (G-20-6) Electric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigition (3) Main source for irrigation	rigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number D-024 - (G-1)	2. Name of commune Jorf (G-2)	
	· · · · · · · · · · · · · · · · · · ·	
3. Name of khettara (G-3)	4. Location of khettara X = <u>593989.72</u> (G-4-1) Y = <u>100715.21</u> (G-4-2)	
5. Number of families who 220 (G-5-2) families	9. Histry of discharge	
6. Number of beneficialies 220 (G-6-2) families	of khettara 1999 12 litter/sec 2000 Tarie	
7. Cycle of kehttara water right 14 (G-7-1) days	1	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased		
11. Total area of farmland [47] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 80 (E-1-1-	· · · · · · · · · · · · · · · · · · ·	
catchment area and conduit [222] (E-1-1-		
Khettara as open channel 400 (E-2-1)	0.7 (E-2-2) 0.4 (E-2-3)	
Principal and secondary 1900 (E-4-2-		
irrigation canal (E-4-2-	-2) 0 (E-4-3-2) 0 (E-4-1-2)	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchn		
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)	
Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
Agriculture (storage,production, transporttion of pr	School 1 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5)	
Rehabilitat	ion of roads 1 (G-20-3) Hospital 1 (G-20-3) actric supply 2 (G-20-3) Others 1 (G-20-7)	
23. Importance of khettara (G-23)		
 (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number D-025 - (G-1)	2. Name of commune Jorf (G-2)	
3. Name of khettara Zarguia	4. Location of khettara $X = 593319.93$ (G-4-1) Y = 100927.58 (G-4-2)	
(G-3) 5. Number of families who have khettara water right	9. Histry of discharge 1998: 30 litter/sec	
6. Number of beneficialies 136 (G-6-2) families	of khettara 1999 Nov: Tarie	
7. Cycle of kehttara water right 17 (G-7-1) days	1	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each(3)No water in the last decadeyear in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is increased		
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads2appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in800 (E-1-1-catchment area and conduit7200 (E-1-1-2)	1) <u>1.5</u> (E-1-4-1) <u>0.8</u> (E-1-5-1)	
Khettara as open channel 1000 (E-2-1)	1 (E-2-2) 0.5 (E-2-3)	
Principal and secondary 400 (E-4-2- irrigation canal 0 (E-4-2-		
	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)SchoolC(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital2(G-20-6)Electric supply2(G-20-3)Others2(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number D-026 (G-1)		2. Name of commune Jorf (G-2)
3. Name of khettara Smaili (G-3)	a	4. Location of khettara $X = 592993.77$ (G-4-1) Y = 101931.77 (G-4-2)
nave knettara water right	0 (G-5-2) families	9. Histry of discharge 1960: 30 litter/sec of khettara 1972: Tarie
	(0 0 2)	
	22 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland []	60 ha A-1)	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads 2 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	150 (E-1-1-1) 5850 (E-1-1-2)) <u>2</u> (E-1-4-1) <u>0.9</u> (E-1-5-1)
Khettara as open channel	<u>640</u> (E-2-1)	0.9 (E-2-2) [1 (E-2-3)
Principal and secondary irrigation canal	720 (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation ler khettara	gth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit (I-2) Irrigation canals 2 (I-7) (3)Negligible damage by desertification Open channel khettara 1 (I-3) (I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal2(G-19-3)Others2		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 2 (G-20-5) Rehabilitation of roads 2 (G-20-2) Hospital 2 (G-20-6) Electric supply 2 (G-20-3) Others 2 (G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number D-027 - (G-1)	2. Name of commune Jorf (G-2)	
3. Name of khettara Idrissia (G-3)	4. Location of khettara $X = 592272.02$ (G-4-1) Y = 101216.56 (G-4-2)	
5. Number of families who 120 (G-5-2) families	9. Histry of discharge	
6. Number of beneficialies 120 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 22 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow2(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland [54] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 100 (E-1-1-		
catchment area and conduit 6000 (E-1-1-2		
Khettara as open channel 1000 (E-2-1)		
Principal and secondary 600 (E-4-2-	1) 0.4 (E-4-3-1) 0.5 (E-4-1-1)	
irrigation canal (E-4-2-2		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification Gallery of conduit		
(3)Negligible damage by desertification Open channel kh		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 4 (G-19-2) Co	Protection dike against flood 2 (G-19-4) onstruction of public wells for domestic water 2 (G-19-5)	
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 2 (G-19-3)	Others 2 (G-19-5)	
22.Demandes of habitants (Aglicultual and social support		
Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6)		
	ctric supply 2 (G-20-3) Others 2 (G-20-7)	
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected 		
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number D-028 - (G-1)	2. Name of commune Jorf (G-2)	
3. Name of khettara Mkadmia (G-3)	4. Location of khettara X = <u>594120.33</u> (G-4-1) Y = <u>101692.9</u> (G-4-2)	
5. Number of families who (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 200 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 17 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2 (I-9)	·	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland [70] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit150 (E-1-1- 3600 (E-1-1-	1) <u>1.8</u> (E-1-4-1) <u>0.8</u> (E-1-5-1)	
Khettara as open channel [1800] (E-2-1)		
Principal and secondary600 (E-4-2-irrigation canal0 (E-4-2-		
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m)	
	irrigation canal (M-8)	
20. Influence of desertification	ent area 1 (I-1) Regulation pond (I-5)	
(1)Significant damage by desertification Gallery in catchment area 1 (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3)		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 2 (G-19-4)		
Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
Agriculture (storage,production, transporttion of product , etc.)ContentSchool1(G-20-4)Rehabilitation of roads1(G-20-1)Sanitary system1(G-20-5)(G-20-2)1(G-20-6)(G-20-6)		
	Cric supply 2 (G-20-3) Others 2 (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras	
(G-24) (G-25)	(2)Prohibited by law (4)Others	

1. Khettara Number D-029 - (G-1)	2. Name of commune Jorf (G-2)	
	4. Location of khettara X = 594112.39 (G-4-1)	
3. Name of khettara (G-3)	4. Location of knettara $X = 594112.39$ (G-4-1) Y = 101695.9 (G-4-2)	
5. Number of families who90 (G-5-2) families	9. Histry of discharge 1960: 26 litter/sec of khettara 1970: 4 litter/sec	
6. Number of beneficialies 90 (G-6-2) families	of khettara 1970: 4 litter/sec 1974: Tarie	
7. Cycle of kehttara water right 21 (G-7-1) days]	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland [60] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 40 (E-1-1- catchment area and conduit 5460 (E-1-1-1-	I) <u>4</u> (E-1-4-1) <u>2</u> (E-1-5-1)	
catchment area and conduit5460(E-1-1-2Khettara as open channel1000(E-2-1)		
	$2.5 (E-2-2) \qquad 1 (E-2-3)$	
Principal and secondary2000 (E-4-2-1)irrigation canal0 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 2 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)2(G-20-1)Sanitary system1(G-20-4)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply2(G-20-3)Others1(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number D-030 - (G-1)	2. Name of commune Jorf (G-2)	
	4. Location of khettara X = <u>594123.8</u> (G-4-1)	
3. Name of khettara (G-3)	Y = 101883.91 (G-4-2)	
5. Number of families who 230 (G-5-2) families have khettara water right	9. Histry of discharge 1990: 25 litter/sec of khettara 1999: 12 litter/sec	
6. Number of beneficialies 230 (G-6-2) families	of khettara 1999: 12 litter/sec 2000: 10 litter/sec	
7. Cycle of kehttara water right 17 (G-7-1) days	2001: Tarie	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased		
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit80 (E-1-1-2 7600 (E-1-1-2		
Khettara as open channel 1000 (E-2-1)	0.7 (E-2-2) 0.5 (E-2-3)	
Principal and secondary5000 (E-4-2-irrigation canal250 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
20. Initial control of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Gallery of conduit (I-2) Irrigation canals (I-7) Open channel khettara		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1(G-19-6)		
22.Demandes of habitants (Aglicultual and social support	rt) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6)		
Electric supply CG-20-3 Others (G-20-7) 23. Importance of khettara (G-23) (G-20-7) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number D-031 MP (G-1)	2. Name of commune Jorf (G-2)	
	4. Location of khettara X = 594128.71 (G-4-1)	
3. Name of khettara (G-3)	4. Location of knettara $X = \frac{594126.71}{101366.47}$ (G-4-1) Y = 101366.47 (G-4-2)	
5. Number of families who 130 (G-5-2) families have khettara water right	9. Histry of discharge 1980: 20 litter/sec	
6. Number of beneficialies 130 (G-6-2) familie	s of khettara 1999: 10 litter/sec 2000: Taris	
7. Cycle of kehttara water right 20 (G-7-1) days]	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow5(I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each(3)No water in the last decadeyear in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is increased		
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1) (G-21) No (2)	, If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit2600 (E-1-1 5200 (E-1-1	-1) <u>1.6</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)	
Khettara as open channel [2000] (E-2-1		
Principal and secondary 2000 (E-4-2 irrigation canal 1000 (E-4-2		
	(m) Rehabilitation length of principal (M-8) (M-8)	
20. Influence of desertification		
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification Gallery in catchment area (1-1) Regulation pond (1-7) Open channel khettara		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product, etc.) Rehabilitation of roads 1 (G-20-2) Electric supply 2 (G-20-3) Others 1 (G-20-7)		
23. Importance of khettara1(G-23)(1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation(4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(4)Others	

1. Khettara Number D-032 - (G-1)	2. Name of commune Jorf (G-2)	
3. Name of khettara Zanouhia	4. Location of khettara X = <u>594675.02</u> (G-4-1)	
(G-3)	Y = 100817.22 (G-4-2)	
5. Number of families who 130 (G-5-2) families have khettara water right	9. Histry of discharge 1998: 15 litter/sec of kbettara 1999: Tarie	
6. Number of beneficialies 130 (G-6-2) families	of khettara 1999: Tarie	
7. Cycle of kehttara water right 11 (G-7-1) days]	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland 100 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 1000 (E-1-1-	I) <u>2</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)	
catchment area and conduit [3450] (E-1-1-2	2) <u>2</u> (E-1-4-2) <u>0.5</u> (E-1-5-2)	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary2600 (E-4-2-200)irrigation canal400 (E-4-2-200)		
	(m) Rehabilitation length of principal (m)	
khettara (M-7)	irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 3 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3) (I-3)		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 2 (G-19-4)		
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppor	t) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6)		
Elei	Ctric supply 2 (G-20-3) Others 2 (G-20-7)	
23. Importance of khettara(G-23)(1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation(4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number D-033 - (G-1)		2. Name of commune Jorf (G-2)
3. Name of khettara Souihla (G-3)		4. Location of khettara $X = 595149.15$ (G-4-1) Y = 100368.95 (G-4-2)
5. Number of families who [3.] (G-5-2] have khettara water right [3.]	2) families	9. Histry of discharge Tarie dupuis 1920
6. Number of beneficialies (G-6-2	2) families	of khettara
7. Cycle of kehttara water right 10 (G-7-1	l) days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland [IA-1]	3	12. Irrigated area by the khettara []ha (IA-3)
13. The condition of roads 2 appropria (G-15) not appro-		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service		16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21	Yes (1),) No (2)	If yes, Name of G-22
18 Situation of khettara	ngth (m)	Section of khettara (average) hight(m) width (m)
) (E-1-1-1)) 0 (E-1-4-1) 0 (E-1-5-1)
catchment area and conduit 2000) (E-1-1-2)) <u>1</u> (E-1-4-2) <u>0.4</u> (E-1-5-2)
Khettara as open channel) (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary) (E-4-2-1)) 0 (E-4-3-1) 0 (E-4-1-1)
irrigation canal) (E-4-2-2)) 0 (E-4-3-2) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	<u> </u>	
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification Gallery in catchment area (I-2) Irrigation canals (I-7)		
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 2 (G-1	9-1)	Protection dike against flood 2 (G-19-4)
Installing pump $\boxed{2}$ (G-1		nstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and soc	ial support	
School 2 (G-20-4) Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 2 (G-20-5)		
F	Rehabilitation	n of roads 2 (G-20-2) Hospital 2 (G-20-3) tric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason		(1)Constrains in landscape (3)Existence of other khettaras
		(2)Prohibited by law (4)Others

1. Khettara Number D-034 (G-1)	MP	2. Name of commune	Jorf (G-2)
3. Name of khettara Souihla (G-3)		4. Location of khettara	X = 594711.89 (G-4-1) Y = 100272.36 (G-4-2)
E Number of femilies who		9. Histry of discharge	1996: 18 litter/sec
	2 (G-6-2) families	of khettara	2000: 15 litter/sec 2002: 5 litter/sec
7. Cycle of kehttara water right	4 (G-7-1) days		2003 juillet: 2.26 litter/sec
8.Discharge of khettara (latest) 11.9	3 (G-8) lit/sec	(I-10))
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			harge of khettara is reduced each
11. Total area of farmland (IA		12. Irrigated area by the	e khettara <u>5</u> ha (IA-3)
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	r and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Jnan Nbi (G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	on of khettara (average)) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1200 (E-1-1-1) 0 (E-1-1-2)) <u>3</u> (E-1-4	4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel	400 (E-2-1)	<u> </u>	2) <u>0.6</u> (E-2-3)
Principal and secondary irrigation canal	2000 (E-4-2-1) 3000 (E-4-2-2)		/ i
19. Rehabilitation Rehabilitation length of 2600 (m) Rehabilitation length of principal 3530 (m)			
20. Influence of desertification		-	
20. Initial location Gallery in catchment area (I-1) Regulation pond (I-5) (1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (3)Negligible damage by desertification Gallery of conduit 1 (I-2) Irrigation canals (I-7) Open channel khettara (I-3) (I-3) (I-3)			
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1(G-19-6)			
22.Demandes of habitants (Aglicultual	and social support	:) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product, etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6) Electric supply 2 (G-20-3) Others 1 (G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara <u>1</u> Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape (2)Prohibited by law	 (3)Existence of other khettaras (4)Others

1. Khettara Number D-035 MF (G-1)		2. Name of commune Jorf (G-2)	
· · · · · · · · · · · · · · · · · · ·			
3. Name of khettara Aissaouia (G-3)			<u>4.65</u> (G-4-1) 5.56 (G-4-2)
5. Number of families who 150 (G-5-2 have khettara water right	, 	9. Histry of discharge	
6. Number of beneficialies 220 (G-6-2) families	of khettara	
7. Cycle of kehttara water right [15] (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)	
10. History of khettara water flow 5	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			educed each
11. Total area of farmland [70] ha (IA-1)		12. Irrigated area by the khettara	0 IA-3)
13. The condition of roads 1 appropriat (G-15) not appropriat			propriate (1) t appropriate (2)
15.Sanitary service 1 appropriat (G-17) not appropriat			ppropriate (1) ot appropriate (2)
17. Existence of Association (G-21)	Yes (1), No (2)	If yes, Name of G-22	
18. Situation of khettara Len	gth (m)	Section of khettara (av hight(m)	verage) width (m)
	(E-1-1-1) (E-1-1-2)		.5 (E-1-5-1) .6 (E-1-5-2)
	(E-2-1)		0 (E-2-3)
	(E-4-2-1) (E-4-2-2)		0.5 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara	250 (I (M-7)	m) Rehabilitation length of principation canal	al <u>1500</u> (m) (M-8)
20. Influence of desertification	<		
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) Gallery of conduit (I-2) Irrigation canals (I-7) Open channel khettara (I-3)			
21.Demandes of habitants (water resources)		Yes (1), No (2)	
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1			
22.Demandes of habitants (Aglicultual and socia	al support) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)Content (G-20-1)SchoolContent (G-20-4)Rehabilitation of roads(G-20-2)(G-20-2)Hospital(G-20-5)Electric supply(G-20-3)Others(G-20-7)			
 (1) Unique source for both of potable water (2) Unique source for irrigation (3) Main source for irrigation 	·23)		
24. Possibility of extension of khettara <u>1</u> Yes (1), No (2) If no, the reason (G-24) (Content of the second		(1)Constrains in landscape (3)Existence of (2)Prohibited by law (4)Others	other khettaras

1. Khettara Number D-036 (G-1)	MP	2. Name of commune Jorf (G-2)
3. Name of khettara Saidia (G-3)		4. Location of khettara $X = 594543.71$ (G-4-1) Y = 100193.74 (G-4-2)
E Number of families who	00 (G-5-2) families	9. Histry of discharge 1999: 18 litter/sec
	06 (G-6-2) families	of khettara 2000: 18 litter/sec 2001: 10 litter/sec
7. Cycle of kehttara water right	15 (G-7-1) days	2002: 6 litter/sec 2003: 0.02 litter/sec
8.Discharge of khettara (latest) 3.	43 (G-8) lit/sec	(I-10)
10. History of khettara water flow	S (I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [15 ha A-1)	12. Irrigated area by the khettara 0.5 ha (IA-3)
13. The condition of roads 2 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Jnan Nbi Association (G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	120 (E-1-1-1) 3840 (E-1-1-2)) <u>2</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel	400 (E-2-1)	8.8 (E-2-2) 0.5 (E-2-3)
Principal and secondary irrigation canal	900 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation ler khettara	ngth of 620 (i (M-7)	m) Rehabilitation length of principal 900 (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchment area (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 2 (I-2) Irrigation canals (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6) Electric supply 2 (G-20-3) Others 1 (G-20-7)		
 23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected 		
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, th	e reason ((1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

	T		
1. Khettara Number D-037 (G-1)	MP	2. Name of commune	Jorf (G-2)
3. Name of khettara (G-3)		4. Location of khettara	X = <u>594136.8</u> (G-4-1) Y = 100236.08 (G-4-2)
E Number of femilies who		9. Histry of discharge	1940: 30 litter/sec 1954: Taris
6. Number of beneficialies	60 (G-6-2) families	of khettara	1968: Taris
7. Cycle of kehttara water right	17 (G-7-1) days		1978: Taris
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland	48 ha \-1)	12. Irrigated area by the	e khettara 0ha (IA-3)
13. The condition of roads 2 (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Jnan Nbi (G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average))
Gallery of khettara (Gallery in catchment area and conduit	300 (E-1-1-1) 5100 (E-1-1-2)) <u>2</u> (E-1-4	1-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel	<u> </u>		·····
Principal and secondary irrigation canal	400 (E-4-2-1) 0 (E-4-2-2)	/ · · · · ·	· · · ·
19. Rehabilitation Rehabilitation len khettara	gth of (M-7)	m) Rehabilitation irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification		<u> </u>	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel kher	<u>1</u> (I-2) Ir	Regulation pond (I-5) rigation canals 1 (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ike against flood 2 (G-19-4) r domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultua	and social support) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)Content (G-20-1)SchoolContent (G-20-4)Rehabilitation of roads1(G-20-2)Hospital1(G-20-5)Electric supply2(G-20-3)Others1(G-20-7)			
23. Importance of khettara 1 (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)	e reason ((1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number D-038 (G-1)		2. Name of commune Jorf (G-2)	
3. Name of khettara Jdida (G-3)		4. Location of khettara $X = 594438.72$ (G-4-1) Y = 99576.68 (G-4-2)	
nave knettara water right	30 (G-5-2) families	9. Histry of discharge 1986: 30 litter/sec of khettara 1991: Tarie	
	32 (G-6-2) families		
7. Cycle of kehttara water right	18 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased	
11. Total area of farmland [60 ha A-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads 2 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) appropriate (2)	
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit	<u>300</u> (E-1-1-1) 6500 (E-1-1-2)) <u>2</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)	
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary irrigation canal	0 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation ler khettara	gth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1			
22.Demandes of habitants (Aglicultua	l and social support		
Agriculture (storage,production, transporttion of product , etc.)ContentSchoolContentConte			
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation	(G-23) table water and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number D-039 - (G-1)		2. Name of commune	Jorf (G-2)
· · · · · · · · · · · · · · · · · · ·			· · ·
3. Name of khettara Sadguia (G-3)		4. Location of khettara	X = <u>594131.38</u> (G-4-1) Y = <u>100251.43</u> (G-4-2)
5. Number of families who [80] (G-5-2)		9. Histry of discharge	0
6. Number of beneficialies 80 (G-6-2)	families	of khettara	
7. Cycle of kehttara water right 15 (G-7-1)	days		
8.Discharge of khettara (latest) 0 (G-8)	it/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
(2)No water in the last two-decade(6)Th(3)No water in the last decadeye(4)No water in the past five years(7)Th	he khettara ear in the r he discharg	the dry season in the past five a has water flow, but the discha ecent five years. ge of the khettara is constant ge of the khettara is increased	e years arge of khettara is reduced each
11. Total area of farmland 60 ha (IA-1)	,	12. Irrigated area by the	khettara O _{ha} (IA-3)
13. The condition of roads 2 appropriate ((G-15) not appropriate		14. The condition of scho	
15.Sanitary service 2 appropriate ((G-17) not appropria		16.Facility of electricity a telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
	es (1), lo (2)	If yes, Name of Association	(G-22)
18. Situation of khettara Lengt	h (m)	Sectior hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit 800 (I	E-1-1-1) E-1-1-2)	2.8 (E-1-4 2.2 (E-1-4	, , ,
• • • • • • • • • • • • • • • • • • •	E-2-1)	0 (E-2-2)	· · · · · · · · · · · · · · · · · · ·
	E-4-2-1) E-4-2-2)	0.4 (E-4-3 0 (E-4-3	
19. Rehabilitation Rehabilitation length of	,		
khettara (M	(n -7)	irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in c Gallery of c Open chan	onduit	1 (I-2) Irr	egulation pond (I-5) igation canals 1 (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dil	ke against flood 2 (G-19-4)
Installing pump 2 (G-19-2 Rehabilitation of irrigation canal 1 (G-19-3		struction of public wells for	domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social	support)	Yes (1), No (2)	
Agriculture (storage,production, transporttion Reha	abilitation	uct , etc.) 2 (G-20-1) of roads 1 (G-20-2) ic supply 2 (G-20-3)	School 2 (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others (G-20-7)
 		(0-20-0)	Others 1 (G-20-7)
23. Importance of khettara (G-23 (1) Unique source for both of potable water an (2) Unique source for irrigtion (3) Main source for irrigation	,	n (4) Partial source for (5) Supplementary sou (6) Neglected	
24. Possibility of extension of khettara			
Yes (1), No (2) If no, the reason (G-24)		1)Constrains in landscape 2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number D-040 - (G-1)	2. Name of commune Jorf (G-2)
3. Name of khettara Karmia (G-3)	4. Location of khettara $X = 593682.21$ (G-4-1) Y = 99458.62 (G-4-2)
5. Number of families who50 (G-5-2) families	9. Histry of discharge 1960: 1 litter/sec of kbettara 1968: Taris
6. Number of beneficialies 50 (G-6-2) families	of khettara 1968: Taris
7. Cycle of kehttara water right 16 (G-7-1) days]
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [18] ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 120 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 2000 (E-1-1-2	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 1000 (E-4-2-	1) 0.4 (E-4-3-1) 0.8 (E-4-1-1)
irrigation canal 0 (E-4-2-2	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area 3 (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
	School 2 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 2 (G-20-5) on of roads 2 (G-20-2) Hospital 2 (G-20-6) ctric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

KHET	TARA	DAT	FBASE

1. Khettara Number D-041 (G-1)		2. Name of commune Jorf (G-2)	
3. Name of khettara El Aissaoui (G-3)		4. Location of khettara $X = 594347.02$ (G-4-1) Y = 100336.64 (G-4-2)	
5. Number of families who 103 (G-5 have khettara water right	,	9. Histry of discharge 1999: 23.48 litter/sec 2000: 19.08 litter/sec	
6. Number of beneficialies 113 (G-6	-2) families	of khettara 2000: 19.08 litter/sec 2001: 14.67 litter/sec	
7. Cycle of kehttara water right [17] (G-7	′-1) days	2002: 10.27 litter/sec 2003: 5.87 litter/sec	
8.Discharge of khettara (latest) 5.64 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased	
11. Total area of farmland [15] (IA-1)	ha	12. Irrigated area by the khettara [5]ha (IA-3)	
	riate (1) propriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
	riate (1) propriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)	
17. Existence of Association 1 (G-2	Yes (1), (1) No (2)	If yes, Name of Monkara Association (G-22)	
18 Situation of khettara	ength (m)	Section of khettara (average) hight(m) width (m)	
	60 (E-1-1-1) 71 (E-1-1-2)) <u>1.5</u> (E-1-4-1) <u>0.35</u> (E-1-5-1)	
	15 (E-2-1)	130 (E-2-2) 0.7 (E-2-3)	
Principal and secondary 18 irrigation canal	00 (E-4-2-1) 0 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of khettara	400 (I (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification			
(2)Partial damage by desertification Gallery	/ in catchme / of conduit channel khe	(I-2) Irrigation canals 1 (I-7)	
21.Demandes of habitants (water resources)		Yes (1), No (2)	
Installing pump 2 (G	i-19-1) i-19-2) Cor i-19-3)	Protection dike against flood 2 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)	
22.Demandes of habitants (Aglicultual and so	cial support		
School 1 (G-20-4)			
Agriculture (storage,production, transpo	Rehabilitation	duct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 2 (G-20-3) Others 1 (G-20-7)	
 (1) Unique source for both of potable was (2) Unique source for irrigation (3) Main source for irrigation 	G-23) ter and irrigation		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

KHETTARA DATBASE			
1. Khettara Number D-042 MP (G-1)	2. Name of commune Jorf (G-2)		
3. Name of khettara Lambarkia (G-3)	4. Location of khettara $X = 594843.34$ (G-4-1) Y = 98671.85 (G-4-2)		
5. Number of families who have khettara water right100 (G-5-2)families6. Number of beneficialies130 (G-6-2)families7. Cycle of kehttara water right15 (G-7-1)days	9. Histry of discharge 2000: 27.0 litter/sec		
8.Discharge of khettara (latest) 20.6 (G-8) lit/sec	(I-10)		
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased		
11. Total area of farmland 50 ha (IA-1)	12. Irrigated area by the khettara 30 ha (IA-3)		
13. The condition of roadsappropriate (1) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association Yes (1) (G-21) No (2)	, If yes, Name of G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit802 3648.6 (E-1-1-			
Khettara as open channel 1706 (E-2-1)	······································		
Principal and secondary440 (E-4-2-irrigation canal0 (E-4-2-			
19. RehabilitationRehabilitation length of khettara0.5 (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)		
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchn Gallery of condu Open channel kh	it [1] (I-2) Irrigation canals [1] (I-7)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Installing pump2(G-19-2)CRehabilitation of irrigation canal1(G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)		
22.Demandes of habitants (Aglicultual and social suppo			
	School 1 (G-20-4 oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others 1 (G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others		

1. Khettara Number D-043 - (G-1)		2. Name of commune Jorf (G-2)
3. Name of khettara Djajia (G-3)		4. Location of khettara X = 594197.89 (G-4-1) Y = 100196.61 (G-4-2)
5. Number of families who 45 (G-5-2)) families	9. Histry of discharge 1967: 8 litter/sec
6. Number of beneficialies 45 (G-6-2) families	of khettara 1968: Taris
7. Cycle of kehttara water right 19 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
(2)No water in the last two-decade(6)(3)No water in the last decade(7)(4)No water in the past five years(7))The khettar year in the)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [16] ha (IA-1)		12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads [1] appropriation (G-15) not appropriation (G-15)		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 appropriation (G-17)		16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)
17. Existence of Association (G-21)	Yes (1), No (2)	If yes, Name of G-22
18 Situation of khettara	igth (m)	Section of khettara (average) hight(m) width (m)
	(E-1-1-1) (E-1-1-2)) <u>1.8</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel		0 (E-2-2) 0 (E-2-3)
	(E-4-2-1 (E-4-2-2	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	<u> </u>	
(2)Partial damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	n catchme of conduit annel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-1 Installing pump 2 (G-1 Rehabilitation of irrigation canal 1 (G-1	9-2) Cor	Protection dike against flood 2 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and soci	al support	t) Yes (1), No (2)
Agriculture (storage,production, transport R	ehabilitatio	School 2 (G-20-4) duct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 2 (G-20-3) Others 2 (G-20-7)
 (1) Unique source for both of potable water (2) Unique source for irrigition (3) Main source for irrigation 	-23) and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason ((G-24)		(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others

KHETTAR	A DATBASE
1. Khettara Number D-044 MP (G-1)	2. Name of commune Jorf (G-2)
3. Name of khettara Lambarkia (G-3)	4. Location of khettara $X = 594959.32$ (G-4-1) Y = 100345.57 (G-4-2)
5. Number of families who have khettara water right104(G-5-2)families6. Number of beneficialies104(G-6-2)families7. Cycle of kehttara water right15(G-7-1)days8.Discharge of khettara (latest)17.35(G-8)lit/sec	9. Histry of discharge of khettara (I-10) 9. Histry of discharge (1999: 18 litter/sec 2000: 18 litter/sec 2003 Auril: 2 litter/sec 2003 mai: Tarie
(2)No water in the last two-decade (6)The khetta (3)No water in the last decade year in th	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant
	12. Irrigated area by the khettara (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Jnan Nbi Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit100 (E-1-1- 5880) (E-1-1-)	
Khettara as open channel 660 (E-2-1)	0.8 (E-2-2) 0.7 (E-2-3)
Principal and secondary 660 (E-4-2- irrigation canal 0 (E-4-2-	
19. RehabilitationRehabilitation length of khettara1750 (M-7)	(m) Rehabilitation length of principal 660 (m) irrigation canal (M-8)
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchm Gallery of condui Open channel kh	t (I-2) Irrigation canals (I-7) ettara (I-3)
21.Demandes of habitants (water resources) Rehabilitation of khettara 1 (G-19-1)	Yes (1), No (2) Protection dike against flood 2 (G-19-4)
	onstruction of public wells for domestic water 2 (G-19-4) Others 1 (G-19-5)
22.Demandes of habitants (Aglicultual and social suppo	
	School 1 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 2 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigtion (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-045 - (G-1)	2. Name of commune Jorf (G-2)
3. Name of khettara El ghanmia (G-3)	4. Location of khettara $X = 592770.78$ (G-4-1) Y = 100660.6 (G-4-2)
5. Number of families who [140] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 140 (G-6-2) famil	lies of khettara
7. Cycle of kehttara water right [17] (G-7-1) day	/5
8.Discharge of khettara (latest) 0 (G-8) lit/se	ec (I-10)
10. History of khettara water flow 1 (I-9	
(2)No water in the last two-decade(6)The kt(3)No water in the last decadeyear in(4)No water in the past five years(7)The di	ater in the dry season in the past five years hettara has water flow, but the discharge of khettara is reduced each n the recent five years. ischarge of the khettara is constant ischarge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	2) 16.Facility of electricity and telecomunication (G-18) not appropriate (1) (G-18)
17. Existence of Association 1 Yes ((G-21) No (2)	
18. Situation of khettara Length (n	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 800 (E-1-1-1) 5200 (E-1-1-1) 5200 (E-1-1)	
Khettara as open channel 1000 (E-2-	
Principal and secondary1000 (E-4)irrigation canal0 (E-4)	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	duit [2] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 2 (G-19-4) Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social sup	port) Yes (1), No (2)
Agriculture (storage,production, transporttion of Rehabili	School 2 (G-20-4) product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) tation of roads 1 (G-20-2) Hospital 2 (G-20-6)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number D-046 - (G-1)	2. Name of commune Jorf (G-2)
3. Name of khettara Rozia (G-3)	4. Location of khettara $X = 595308.7$ (G-4-1) Y = 98873.45 (G-4-2)
5. Number of families who [100] (G-5-2) familie	s 9. Histry of discharge 1988: 5 litter/sec
6. Number of beneficialies 100 (G-6-2) familie	s of khettara 1989: Taris 1991: 5 litter/sec
7. Cycle of kehttara water right 15 (G-7-1) days	1995: Taris
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 3 (I-9)	
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit40 (E-1-1 3460 (E-1-1	-1) <u>1.7</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)
Khettara as open channel 400 (E-2-1	
Principal and secondary [1800] (E-4-2 irrigation canal 700] (E-4-2	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	`````````````````````````````````
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit <u>3</u> (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) (Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 2 (G-19-4) Construction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
	School 1 (G-20-4) roduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) tion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation	(4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-047 (G-1)	MP	2. Name of commune	Jorf (G-2)
3. Name of khettara	ia	4. Location of khettara	X = 594927.32 (G-4-1) Y = 98725.02 (G-4-2)
E Number of families who	02 (G-5-2) families	9. Histry of discharge	1999: 34.38 litter/sec 2000: 28.65 litter/sec
6. Number of beneficialies 1	50 (G-6-2) families	of khettara	2001: 22.92 litter/sec
7. Cycle of kehttara water right	14 (G-7-1) days		2002: 17.19 litter/sec 2003: 11.46 litter/sec
8.Discharge of khettara (latest) 18	3.9 (G-8) lit/sec	(I-10)	
10. History of khettara water flow	6 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past fiv ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	narge of khettara is reduced each
11. Total area of farmland []	<u>123</u> ha A-1)	12. Irrigated area by the	e khettara <u>11</u> ha (IA-3)
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	7 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m	on of khettara (average)) : width (m)
Gallery of khettara (Gallery in catchment area and conduit	700 (E-1-1-1) 4941 (E-1-1-2)	,	, , ,
Khettara as open channel	0 (E-2-1)	0 (E-2-2	
Principal and secondary irrigation canal	1550 (E-4-2-1) 3177 (E-4-2-2)		/ I
19. Rehabilitation Rehabilitation ler khettara	ngth of 500 (M-7)	m) Rehabilitation l irrigation canal	length of principal <u>1550</u> (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	2 (I-2) Ir	Regulation pond (I-5) rrigation canals 1 (I-7)
21.Demandes of habitants (water res	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection d nstruction of public wells for	like against flood 2 (G-19-4) r domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)ContentSchoolContentConte			
23. Importance of khettara (1) (1) Unique source for both of por (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettar 1 Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number D-048 - (G-1)		2. Name of commune	e Jorf (G-2)	
3. Name of khettara Lazizia	4	4. Location of khettar	a X=	<u>593353.1</u> (G-4-1)
(G-3)			Y =	99085.88 (G-4-2)
5. Number of families who [10] (G-5-2) fat have khettara water right		9. Histry of discharge	1950: Ta	aris
	amilies C	of khettara		
7. Cycle of kehttara water right [17] (G-7-1)	days			
8.Discharge of khettara (latest) 0 (G-8) lit	/sec	(-	10)	
10. History of khettara water flow 1 (I-9)			
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	e khettara ar in the ro e discharg	the dry season in the past a has water flow, but the di ecent five years. ge of the khettara is consta ge of the khettara is increa	scharge of khe ant	ettara is reduced each
11. Total area of farmland [15] ha (IA-1)	1	12. Irrigated area by	the khettara	0ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate		14. The condition of s		appropriate (1) -16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate		16.Facility of electric telecomunication	,	appropriate (1) -18) not appropriate (2)
	es (1), o (2)	If yes, Name of Association	Jnan Nt (G-22)	pi
18. Situation of khettara Length	(m)	Sec hight		tara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit150 (E 5000 (E	,	2 (E- 1.7 (E-	1-4-1) 1-4-2)	0.5 (E-1-5-1) 0.4 (E-1-5-2)
+	-2-1)	0 (E-		0 (E-2-3)
Principal and secondary 3000 (E irrigation canal 0 (E	-4-2-1) -4-2-2)		4-3-1) 4-3-2)	0.2 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-	(m	n) Rehabilitatio		principal (m) (M-8)
20. Influence of desertification	,	U		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open chann	onduit	<u>3</u> (I-2)	Regulatior Irrigation c	
21.Demandes of habitants (water resources)		Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Cons	Protection struction of public wells		
22.Demandes of habitants (Aglicultual and social s		Yes (1), No (2)		
				School 2 (G-20-4)
Agriculture (storage,production, transporttion Reha	bilitation	uct , etc.) 2 (G-20- of roads 1 (G-20- ic supply 2 (G-20-3	2)	v system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigition (3) Main source for irrigation		n (4) Partial source (5) Supplementary (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-24)		1)Constrains in landsca 2)Prohibited by law	pe (3)Existe (4)Othei	ence of other khettaras

1. Khettara Number D-049 - (G-1)	2. Name of commune Jorf (G-2)
	4. Location of khettara X = <u>594939.03</u> (G-4-1)
3. Name of khettara Namoussia (G-3)	4. Location of knettara $X = 594939.03$ (G-4-1) Y = 98605 (G-4-2)
5. Number of families who [30] (G-5-2) families have khettara water right	9. Histry of discharge 1965. Tans
6. Number of beneficialies 0 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [11] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [1500] (E-1-1-	
Khettara as open channel 0 (E-2-1)	
Principal and secondary 2000 (E-4-2-	.1) 0.2 (E-4-3-1) 2 (E-4-1-1)
irrigation canal (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchr	nent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	ion of roads 1 (G-20-2) Hospital 1 (G-20-6)
	ectric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-050 - (G-1)	2. Name of commune Jorf (G-2)
	4. Location of khettara X = 592967.19 (G-4-1)
3. Name of khettara (G-3)	Y = 101389.39 (G-4-2)
5. Number of families who 30 (G-5-2) families	9. Histry of discharge 1950: Taris
6. Number of beneficialies 30 (G-6-2) families	of khettara
7. Cycle of kehttara water right 11 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0) (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 4300 (E-1-1-2	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 500 (E-4-2-	1) 0.3 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal [[] (E-4-2-	2) 0 (E-4-3-2) 0 (E-4-1-2)
	(m) Rehabilitation length of principal (m)
	irrigation canal (M-8)
20. Influence of desertification	ent area (I-1) Regulation pond (I-5)
(1)Significant damage by desertification	
(2)Partial damage by desertification (3)Negligible damage by desertification	
21.Demandes of habitants (water resources)	ettara (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)
Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
Agriculture (storage,production, transporttion of pro	School 2 (G-20-4)
Rehabilitati	oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23)	
(1) Unique source for both of potable water and irriga	tion (4) Partial source for irrigation
(2) Unique source for irrigiton(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected
	(v) neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number D-051 - (G-1)	2. Name of commune Jorf (G-2)
3. Name of khettara Souihla (G-3)	4. Location of khettara $X = 602841.92$ (G-4-1) Y = 91109.14 (G-4-2)
5. Number of families who [100] (G-5-2) families	9. Histry of discharge 1985: 5 litter/sec
6. Number of beneficialies 100 (G-6-2) families	of khettara 1986: Taris 1993: 10 litter/sec
7. Cycle of kehttara water right 15 (G-7-1) days	1998: Taris
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 3 (I-9)	· · · · · · · · · · · · · · · · · · ·
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 90 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit80 (E-1-1- 5920 (E-1-1-)	1) <u>1.2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 6000 (E-4-2- irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	¥
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 1 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number D-052 - (G-1)	2. Name of commune A.S.Gheris (G-2)	
3. Name of khettara Melha (G-3)	4. Location of khettara $X = 598505.11$ (G-4-1) Y = 96545.15 (G-4-2)	
5. Number of families who 60 (G-5-2) families	9. Histry of discharge 0	
6. Number of beneficialies 80 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 0 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 3 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland [148] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit0 (E-1-1- 2700 (E-1-1-	1) <u>0</u> (E-1-4-1) <u>0</u> (E-1-5-1)	
Khettara as open channel [0] (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary [1400] (E-4-2- irrigation canal 0] (E-4-2-	1) <u>0.6</u> (E-4-3-1) <u>0.5</u> (E-4-1-1)	
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m)	
	irrigation canal (M-8)	
20. Influence of desertification (1)Significant demonstration Gallery in catchm	ent area (I-1) Regulation pond (I-5)	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t <u>1</u> (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)	
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others 1 (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others	

ł	KHETTARA	A DATBASE	
1. Khettara Number D-053 (G-1)	MP	2. Name of commune	A.S.Gheris (G-2)
, ,	Bouya	4. Location of khettara	X = 599243.34 (G-4-1) Y = 114048.39 (G-4-2)
nave knettara water right 6. Number of beneficialies 7. Cycle of kehttara water right	72 (G-5-2) families 30 (G-6-2) families 16 (G-7-1) days 78 (G-8) lit/sec	9. Histry of discharge of khettara (I-10)	1999: 23.32 litter/sec 2000: 22.34 litter/sec 2001: 21.37 litter/sec 2002 20.40 litter/sec 2003 19.43 litter/sec
10. History of khettara water flow 6	6 (I-9)	,	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past fiv ra has water flow, but the disch recent five years. Irge of the khettara is constant Irge of the khettara is increased	narge of khettara is reduced each
11. Total area of farmland	40 ha A-1)	12. Irrigated area by the	e khettara <u>34.8</u> ha (IA-3)
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) ^{not} appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average)) i width (m)
Gallery of khettara (Gallery in catchment area and conduit	300 (E-1-1-1 6000 (E-1-1-2		
Khettara as open channel	0 (E-2-1)	0 (E-2-2	2) 0 (E-2-3)
Principal and secondary irrigation canal	1000 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation len khettara	igth of 1300 ((M-7)	m) Rehabilitation I irrigation canal	length of principal 1100 (m) (M-8)
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>1</u> (I-2) Ir	Regulation pond (I-5) rigation canals 1 (I-7)
21.Demandes of habitants (water reso	purces)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Con (G-19-3)	Protection d nstruction of public wells for	ike against flood 1 (G-19-4) r domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultua	I and social support	t) Yes (1), No (2)	
Agriculture (storage,production	Rehabilitatio		School (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara (1) Unique source for both of por (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	r irrigation ource for irrigation
24. Possibility of extension of khettara <u>1</u> Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

	KHETTARA	A DATBASE	
1. Khettara Number D-054 (G-1)	MP	2. Name of commune	A.S.Gheris (G-2)
	a Bouya	4. Location of khettara	X = 599369.53 (G-4-1) Y = 95660.47 (G-4-2)
5. Number of families who have khettara water right 6. Number of beneficialies	60 (G-5-2) families 80 (G-6-2) families	9. Histry of discharge of khettara	1999: 23.22 litter/sec 2000: 22.25 litter/sec 2001: 21.29 litter/sec 2002: 20.32 litter/sec
7. Cycle of kehttara water right 8.Discharge of khettara (latest)	0 (G-7-1) days 4.49 (G-8) lit/sec	(I-10)	
10. History of khettara water flow	6 (I-9)	(1-10)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.		
11. Total area of farmland	48 ha (IA-1)	12. Irrigated area by the	khettara <u>34</u> ha (IA-3)
13. The condition of roads [2 (G-1	appropriate (1) not appropriate (2)	14.The condition of sch	iools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-1	appropriate (1) 7) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Al Amal (G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	<u>300</u> (E-1-1-1 <u>650</u> (E-1-1-2		
Khettara as open channel	0 (E-2-1)	0 (E-2-2	2) 0 (E-2-3)
Principal and secondary irrigation canal	850 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation le khettara	ength of 1000 ((M-7)	(m) Rehabilitation lirrigation canal	ength of principal 1000 (m) (M-8)
 20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification 	Gallery in catchme Gallery of conduit Open channel khe	<u>1</u> (I-2) Ir	rigation canals
21.Demandes of habitants (water re-		Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Co	Protection di nstruction of public wells for	ike against flood 2 (G-19-4) domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultu	al and social suppor	t) Yes (1), No (2)	
Agriculture (storage,productio	Rehabilitatio	duct , etc.) 1 (G-20-1) on of roads 1 (G-20-2) tric supply 1 (G-20-3)	School 1 (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara 1 (1) Unique source for both of (2) Unique source for irrigition (3) Main source for irrigation	(G-23) potable water and irrigat	ion (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khetta 1 Yes (1), No (2) If no, t (G-24)	ra he reason (G-25)	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

I	KHETTARA	ADATBASE	
1. Khettara Number D-055 (G-1)	MP	2. Name of commune	A.S.Gheris (G-2)
3. Name of khettara Kdima (G-3)	a Krair	4. Location of khettara	X = 601897.74 (G-4-1) Y = 91974.243 (G-4-2)
6. Number of beneficialies 1 7. Cycle of kehttara water right	04 (G-5-2) families 32 (G-6-2) families 13 (G-7-1) days 73 (G-8) lit/sec	9. Histry of discharge of khettara	1999: 20.65 litter/sec 2000: 18.93 litter/sec 2001: 17.21 litter/sec 2002: 15.49 litter/sec 2003: 13.77 litter/sec
10. History of khettara water flow		(I-10)	
 10. History of khettara water flow (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(5) No water ii (6)The khettai year in the (7)The discha	n the dry season in the past five ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland [80 ha A-1)	12. Irrigated area by the	khettara <u>40</u> ha (IA-3)
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	ools 1 appropriate (1) (G-16) ^{not} appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Al ouahda (G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1 6700 (E-1-1-2		
Khettara as open channel	0 (E-2-1)	0 (E-2-2	
Principal and secondary irrigation canal	<u>100</u> (E-4-2-1 2000 (E-4-2-2		
19. Rehabilitation Rehabilitation ler khettara	ngth of (M-7)	m) Rehabilitation le irrigation canal	ength of principal 400 (m) (M-8)
 20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification 	Gallery in catchme Gallery of conduit Open channel khe	<u>3</u> (I-2) Iri	egulation pond (I-5) rigation canals 2 (I-7)
21.Demandes of habitants (water res	,	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ke against flood 2 (G-19-4) domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultua	al and social support) Yes (1), No (2)	
Agriculture (storage,production	Rehabilitatio		School 1 (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara 1 (1) Unique source for both of p (2) Unique source for irrigition (3) Main source for irrigation	(G-23) otable water and irrigati	on (4) Partial source for (5) Supplementary sc (6) Neglected	
24. Possibility of extension of khettar 1 Yes (1), No (2) If no, th (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

KHETTARA DATBASE			
1. Khettara Number D-056 (G-1)	MP	2. Name of commune	A.S.Gheris (G-2)
3. Name of khettara Jdida (G-3)	Krair	4. Location of khettara	X = <u>600726.88</u> (G-4-1) Y = <u>94626.83</u> (G-4-2)
5. Number of families who have khettara water right 6. Number of beneficialies 7. Cycle of kehttara water right 8.Discharge of khettara (latest)	53 (G-5-2) families 70 (G-6-2) families 15 (G-7-1) days .36 (G-8) lit/sec	9. Histry of discharge of khettara (I-10)	1999: 23.36 litter/sec 2000: 20.44 litter/sec 2001: 17.52 litter/sec 2002: 14.60 litter/sec 2003: 11.68 litter/sec
10. History of khettara water flow 6 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (4)No water in the past five years (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased			
11. Total area of farmland (140 ha IA-1)	12. Irrigated area by the	khettara <u>35</u> ha (IA-3)
13. The condition of roads (G-1	appropriate (1) not appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)
15.Sanitary service 2 (G-1	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Al Khair (G-22)
18. Situation of khettara Gallery of khettara (Gallery in catchment area and conduit	Length (m) 300 (E-1-1-1 6550 (E-1-1-2	hight(m)) <u>1.8</u> (E-1-4	-1) <u>0.35</u> (E-1-5-1)
Khettara as open channel Principal and secondary irrigation canal	0 (E-2-1) 1500 (E-4-2-1 0 (E-4-2-2) 0.3 (E-2-2) 0.3 (E-4-3) 0 (E-2-3) 3-1) 0.3 (E-4-1-1)
19. Rehabilitation Rehabilitation le khettara			ength of principal 2000 (m) (M-8)
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	1 (I-2) In ettara (I-3)	egulation pond (I-5) rigation canals 1 (I-7)
21.Demandes of habitants (water res Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1)	Yes (1), No (2) Protection di nstruction of public wells for	ke against flood 1 (G-19-4) domestic water 1 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultus Agriculture (storage,productio	n, transporttion of proc Rehabilitatio Elec	duct , etc.) 1 (G-20-1)	School 1 (G-20-4 Sanitary system 1 (G-20-5 Hospital 1 (G-20-6 Others 2 (G-20-7
23. Importance of khettara (1) (1) Unique source for both of p (2) Unique source for irrigition (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khetta 1 (G-24) Yes (1), No (2) If no, the (G-24)	ne reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number D-057 - (G-1)		2. Name of commune A.S.Gheris (G-2)
3. Name of khettara Bahmania (G-3)		4. Location of khettara X = <u>599269.7</u> (G-4-1) Y = <u>95080.36</u> (G-4-2)
5. Number of families who 60 (G-5-2)		9. Histry of discharge 0
6. Number of beneficialies 80 (G-6-2)	families	of khettara
7. Cycle of kehttara water right 0 (G-7-1)	days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow	(I-9)	
(2)No water in the last two-decade(6)T(3)No water in the last decade(4)No water in the past five years(7)T	he khettar /ear in the he dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. Irge of the khettara is constant Irge of the khettara is increased
11. Total area of farmland [18] ha (IA-1)		12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (G-15) not appropriate		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (G-17) not appropri		16.Facility of electricity and telecomunication1 appropriate (1) not appropriate (2)
	Yes (1), No (2)	If yes, Name of Association (G-22)
18 Situation of khettara	th (m)	Section of khettara (average) hight(m) width (m)
	(E-1-1-1) (E-1-1-2)) <u>0</u> (E-1-4-1) <u>0</u> (E-1-5-1)
•	(E-2-1)	0 (E-2-2) 0 (E-2-3)
	(E-4-2-1) (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara	(r Л-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	-	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in Gallery of Open chail	conduit	[1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-19- Installing pump 1 (G-19- Rehabilitation of irrigation canal 1 (G-19-	2) Cor	Protection dike against flood 2 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social	support)	t) Yes (1), No (2)
Agriculture (storage,production, transporttio Ref	nabilitatior	School 1 (G-20-4) duct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-2 (1) Unique source for both of potable water a (2) Unique source for irrigtion (3) Main source for irrigation	,	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-24)		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

KHET	TARA	DAT	BASE

1. Khettara Number D-058 MP	2. Name of commune A.S.Gheris (G-2)	
(G-1)		
3. Name of khettara (G-3)	4. Location of khettara $X = 601326.96$ (G-4-1) Y = 93280.65 (G-4-2)	
5. Number of families who84 (G-5-2) fa	9. Histry of discharge 2000: 29.5 litter/sec 2000: 29.5 litter/sec	
6. Number of beneficialies 90 (G-6-2) ^{fa}	amilies of khettara 2000: 29.5 litter/sec 2001: 29.5 litter/sec	
(c :)	days 2002: 29.5 litter/sec 2003: 23.6 litter/sec	
8.Discharge of khettara (latest) 18.48 (G-8) lit/	/sec (I-10)	
10. History of khettara water flow 6 (I-	I-9)	
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	water in the dry season in the past five years a khettara has water flow, but the discharge of khettara is reduced each ar in the recent five years. a discharge of the khettara is constant a discharge of the khettara is increased	
11. Total area of farmland 154 ha (IA-1)	12. Irrigated area by the khettara <u>60</u> ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate		
	es (1), If yes, Name of Khtitira (C2) Association (G-22)	
18. Situation of khettara Length	(m) Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit200 (E- 4800 (E-		
	-2-1) 0 (E-2-2) 0 (E-2-3)	
Principal and secondary1750 (E-irrigation canal900 (E-		
19. Rehabilitation Rehabilitation length of 1 khettara (M-7	I 300 (m)Rehabilitation length of principal1750 (m)7)irrigation canal(M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channe		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2 (G-19-5)	
22.Demandes of habitants (Aglicultual and social su	upport) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)CSchool1(G-20-4)Rehabilitation of roads1(G-20-2)G-20-2)Hospital2(G-20-5)Electric supply2(G-20-3)Others1(G-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigation (3) Main source for irrigation		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	 (1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others 	

1. Khettara Number D-059 MP (G-1)	2. Name of commune A.S.Gheris (G-2)
	4. Location of khettara X = 601630.93 (G-4-1)
3. Name of khettara (G-3)	4. Location of knettara $X = 601630.93$ (G-4-1) Y = 93003.44 (G-4-2)
5. Number of families who 66 (G-5-2) families have khettara water right	9. Histry of discharge 1999. 32.40 litter/sec
6. Number of beneficialies 88 (G-6-2) families	of khettara 2000: 28.35 litter/sec 2001: 24.30 litter/sec
7. Cycle of kehttara water right 13 (G-7-1) days	2002: 20.25 litter/sec 2003: 16.20 litter/sec
8.Discharge of khettara (latest) 10.27 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [110] ha (IA-1)	12. Irrigated area by the khettara 30 ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1- 5300 (E-1-1-	1) <u>2.5</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)
Khettara as open channel 0 (E-2-1)	
Principal and secondary 2200 (E-4-2- irrigation canal 800 (E-4-2-	
19. Rehabilitation Rehabilitation length of 1300 khettara (M-7)	(m) Rehabilitation length of principal 2200 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it <u>2</u> (I-2) Irrigation canals (I-7) nettara (I-3)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 2 (G-19-4) construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	ort) Yes (1), No (2)
Agriculture (storage,production, transporttion of pr Rehabilitat	School 1 (G-20-4)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others

1. Khettara Number D-060 MP (G-1)		2. Name of commune A.S.Gheris (G-2)
3. Name of khettara Fougania (G-3)		4. Location of khettara $X = 601208.07$ (G-4-1) Y = 93023.76 (G-4-2)
5 Number of families who	amilies g	9. Histry of discharge 0
· · · · · · · · · · · · · · · · · · ·	amilies C	of khettara
7. Cycle of kehttara water right 0 (G-7-1)	days	
8.Discharge of khettara (latest) 44.18 (G-8)	t/sec	(I-10)
10. History of khettara water flow 8 ((I-9)	
(2)No water in the last two-decade(6)Th(3)No water in the last decadeye(4)No water in the past five years(7)Th	e khettara ar in the r e discharg	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. Irge of the khettara is constant Irge of the khettara is increased
11. Total area of farmland [57] ha (IA-1)		12. Irrigated area by the khettara [52]ha (IA-3)
13. The condition of roads [G-15] appropriate (1 (G-15)		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 appropriate (1 (G-17) not appropriate		16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) appropriate (2)
	es (1), o (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length	n (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit1000 (E 5500 (E	,) <u>1.8</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
•	-2-1)	0 (E-2-2) 0 (E-2-3)
	E-4-2-1) E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara (M-	2460 (n -7)	(m) Rehabilitation length of principal 1800 (m) irrigation canal (M-8)
20. Influence of desertification	,	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open chann	onduit	3 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1 Installing pump 2 (G-19-2 Rehabilitation of irrigation canal 1 (G-19-3) Con	Protection dike against flood 2 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social s	support)	
Agriculture (storage,production, transporttion Reha	bilitation	School 1 (G-20-4 duct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5 n of roads 1 (G-20-2) Hospital 2 (G-20-6 tric supply 2 (G-20-3) Others 2 (G-20-7
23. Importance of khettara 1 (G-23 (1) Unique source for both of potable water and (2) Unique source for irrigation (3) Main source for irrigation	,	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-2	-	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number D-061 MP (G-1)	2. Name of commune A.S.Gheris (G-2)		
3. Name of khettara Oustania (G-3)	4. Location of khettara $X = 601430.33$ (G-4-1) Y = 92560.41 (G-4-2)		
5. Number of families who 80 (G-5-2) families have khettara water right	9. Histry of discharge 1999: 25.77 litter/sec 2000: 23.62 litter/sec		
6. Number of beneficialies 100 (G-6-2) families	2001: 21.47 litter/sec		
7. Cycle of kehttara water right 13 (G-7-1) days	2002: 19.33 litter/sec 2003: 17.18 litter/sec		
8.Discharge of khettara (latest) 6 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 6 (I-9)			
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased		
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara 20 ha (IA-3)		
13. The condition of roads2appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) (1) not appropriate (2)		
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit400 (E-1-1- 7300 (E-1-1-			
Khettara as open channel [0 (E-2-1)	0 (E-2-2) 0 (E-2-3)		
Principal and secondary1000 (E-4-2-irrigation canal1000 (E-4-2-			
19. Rehabilitation Rehabilitation length of 0.6 khettara (M-7)	(m) Rehabilitation length of principal 0.6 (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [1-7]		
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1(G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)ConstraintsSchool1(G-20-4)Agriculture (storage,production, transporttion of product , etc.)Constraints			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number D-062 MP (G-1)	2. Name of commune A.S.Gheris (G-2)		
	4. Location of khettara X = 601765.33 (G-4-1)		
(G-3)	$Y = \frac{92262.44}{(G-4-2)}$		
5. Number of families who59 (G-5-2) families have khettara water right	9. Histry of discharge 1999. 17.00 litter/sec		
6. Number of beneficialies 80 (G-6-2) families	of khottara 2000: 16.13 litter/sec		
7. Cycle of kehttara water right 12 (G-7-1) days	2002: 13.20 litter/sec		
8.Discharge of khettara (latest) 9.56 (G-8) lit/sec	– 2003: 11.73 litter/sec		
	(I-10)		
10. History of khettara water flow 6 (I-9)			
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased		
11. Total area of farmland [120] ha (IA-1)	12. Irrigated area by the khettara 36 ha (IA-3)		
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association (G-21) No (2)	If yes, Name of Al Khair Association (G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit300 (E-1-1- 5550 (E-1-1-	1) <u>1.8</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)		
Khettara as open channel 0 (E-2-1)			
Principal and secondary 2000 (E-4-2- irrigation canal 400 (E-4-2-			
19. Rehabilitation Rehabilitation length of 2000 khettara (M-7)	(m) Rehabilitation length of principal 2000 (m) irrigation canal (M-8)		
20. Influence of desertification	(1.4) Population pond (1.5)		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchn Gallery of condu Open channel kt	it [1] (I-2) Irrigation canals [1] (I-7)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)		
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)		
22.Demandes of habitants (Aglicultual and social suppo			
Agriculture (storage,production, transporttion of product , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6)			
Ele	ectric supply 1 (G-20-3) Others 1 (G-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others		

1. Khettara Number D-063 - (G-1)		2. Name of commune A.S.Gheris (G-2)
	<u> </u>	4. Location of khettara X = 600964.18 (G-4-1)
3. Name of khettara Lamdinia (G-3)		4. Example 10 (G-4-1) Y = 92848.78 (G-4-2)
5. Number of families who 40 (G-5 have khettara water right	-2) families	9. Histry of discharge
6. Number of beneficialies 40 (G-6	-2) families	of khettara
7. Cycle of kehttara water right [11] (G-7	-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [16] (IA-1)	ha	12. Irrigated area by the khettara [] _{ha} (IA-3)
13. The condition of roads 2 appropriate (G-15) not app	iate (1) ropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropr (G-17) not app	iate (1) ropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-2	Yes (1), 1) No (2)	If yes, Name of G-22
18 Situation of khettara	ength (m)	Section of khettara (average) hight(m) width (m)
	00 (E-1-1-1) 00 (E-1-1-2)	
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 50 irrigation canal	00 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	in catchme of conduit channel khe	[1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Installing pump 2	-19-1) -19-2) Cor -19-3)	Protection dike against flood 2 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and so	cial support) Yes (1), No (2)
Agriculture (storage,production, transpo	Rehabilitation	
 (1) Unique source for both of potable wat (2) Unique source for irrigition (3) Main source for irrigation 	G-23) er and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

KHET	TARA	DAT	BASE

1. Khettara Number D-064 MP (G-1)	2. Name of commune A.S.Gheris (G-2)		
3. Name of khettara Lagrinia	4. Location of khettara X = 601758.39 (G-4-1)		
(G-3)	Y = 91908.12 (G-4-2)		
5. Number of families who (G-5-2) families have khettara water right	9. Histry of discharge 1999: 6.82 litter/sec		
6. Number of beneficialies 102 (G-6-2) famil	ies of khettara 2000: 6.25 litter/sec 2001: 5.68 litter/sec		
7. Cycle of kehttara water right 15 (G-7-1) day	2002: 3.50 litter/sec 2003: 4.55 litter/sec		
8.Discharge of khettara (latest) 5.64 (G-8) lit/se			
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The kh(3)No water in the last decadeyear in(4)No water in the past five years(7)The dial	ater in the dry season in the past five years tettara has water flow, but the discharge of khettara is reduced each in the recent five years. the scharge of the khettara is constant scharge of the khettara is increased		
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara [7]ha (IA-3)		
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association 1 Yes ((G-21) No (2)			
18. Situation of khettara Length (n	n) Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1- 5500 (E-1-	1-1) <u>2.3</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)		
Khettara as open channel [0 (E-2-			
Principal and secondary2000 (E-4-irrigation canal1000 (E-4-	-2-1) <u>0.4</u> (E-4-3-1) <u>0.5</u> (E-4-1-1)		
19. Rehabilitation Rehabilitation length of [110 khettara (M-7)	00 (m) Rehabilitation length of principal 2000 (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	duit [1] (I-2) Irrigation canals [1] (I-7)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water (G-19-5) Others 1 (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply2(G-20-3)Others1(G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigition (3) Main source for irrigation	igation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number D-065 MP (G-1)	2. Name of commune A.S.Gheris (G-2)	
3. Name of khettara (G-3)	4. Location of khettara $X = 602123.14$ (C Y = 91378.96 (C	,
5. Number of families who [73] (G-5-2) famil	9. Histry of discharge 2000: 5.59 litter/sec 2000: 5.53 litter/sec	
6. Number of beneficialies 90 (G-6-2) factors	amilies of khettara 2000: 5.53 litter/sec 2001: 5.46 litter/sec	
7. Cycle of kehttara water right [14] (G-7-1)	days 2002: 5.40 litter/sec 2003: 5.34 litter/sec	
8.Discharge of khettara (latest) 7.24 (G-8) lit	/sec (I-10)	
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	water in the dry season in the past five years b khettara has water flow, but the discharge of khettara is reduced of ar in the recent five years. e discharge of the khettara is constant e discharge of the khettara is increased	each
11. Total area of farmland [55] ha (IA-1)	12. Irrigated area by the khettara (IA-3)	5 ha
13. The condition of roads 2 appropriate (1 (G-15) not appropriate		
15.Sanitary service 1 appropriate (1 (G-17) not appropriate		
	(1), If yes, Name of Hannabou (2) Association (G-22)	
18. Situation of khettara Length	(m) Section of khettara (average) hight(m) width (
Gallery of khettara (Gallery in1000 (Ecatchment area and conduit5800 (E	-1-1-1) <u>1.8</u> (E-1-4-1) <u>0.5</u> (E-1	-5-1)
• • • • • • • • • • • • • • • • • • •	-2-1) 0 (E-2-2) 0 (E-2	
Principal and secondary400 (Eirrigation canal1500 (E		,
19. Rehabilitation Rehabilitation length of khettara (M-		700 (m) 1-8)
20. Influence of desertification		 _ <i>"</i> _、
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in ca Gallery of co Open chann		(I-5) (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2	(G-19-4) (G-19-5) (G-19-6)
22.Demandes of habitants (Aglicultual and social s	upport) Yes (1), No (2)	
Agriculture (storage,production, transporttion Reha	of product , etc.) 1 (G-20-1) Sanitary system 1 bilitation of roads 1 (G-20-2) Hospital 1 Electric supply 2 (G-20-3) Others 1	(G-20-4) (G-20-5) (G-20-6) (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigation (3) Main source for irrigation		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-24)	(1)Constrains in landscape (3)Existence of other kt (2)Prohibited by law (4)Others	nettaras

KHETTARA DATBASE	

1. Khettara Number D-066 (G-1)	MP	2. Name of commune	A.S.Gheris (G-2)
		1 Location of the attorn	· · ·
3. Name of khettara Mostaf (G-3)	ia	4. Location of khettara	X = <u>602677.92</u> (G-4-1) Y = <u>89594.95</u> (G-4-2)
5. Number of families who have khettara water right	B1 (G-5-2) families	9. Histry of discharge	1999: 10.86 litter/sec 2000: 10.86 litter/sec
6. Number of beneficialies	32 (G-6-2) families	of khettara	2001: 9.65 litter/sec
7. Cycle of kehttara water right	14 (G-7-1) days		2002: 8.44 litter/sec 2003: 7.24 litter/sec
8.Discharge of khettara (latest) 4.6	69 (G-8) lit/sec	(I-10)	2000. 7.2 1 11(0)/300
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the dischare recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland	100 ha \-1)	12. Irrigated area by the	khettara <u>40</u> ha (IA-3)
13. The condition of roads [1 (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	ools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Hannabou (G-22)
18. Situation of khettara	Length (m)	Section hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	400 (E-1-1-1) 6400 (E-1-1-2)) <u>2</u> (E-1-4	-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	0 (E-2-1)	0 (E-2-2	,
Principal and secondary irrigation canal	800 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation len khettara	gth of 1400 ((M-7)	m) Rehabilitation le irrigation canal	ength of principal 800 (m) (M-8)
20. Influence of desertification		-	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>1</u> (I-2) Iri	egulation pond (I-5) rigation canals (I-7)
21.Demandes of habitants (water resc	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ke against flood 2 (G-19-4) domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual	. ,) Yes (1), No (2)	<u> </u>
School 1(G-20-4)			
Agriculture (storage,production	Rehabilitation	duct , etc.) 2 (G-20-1) n of roads 1 (G-20-2) tric supply 2 (G-20-3)	Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara 1 (1) Unique source for both of po (2) Unique source for irrigition (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	irrigation
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number D-067 (G-1)	-	2. Name of commune A.S.Gheris (G-2)
3. Name of khettara El Omaria (G-3)		4. Location of khettara $X = 603320.45$ (G-4-1) Y = 89302.82 (G-4-2)
5. Number of families who 10 (0	G-5-2) families	9. Histry of discharge
		of khettara
	G-7-1) days	
8.Discharge of khettara (latest) 0 (0	,	(I-10)
10. History of khettara water flow 1	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [IA-1]	10 ha	12. Irrigated area by the khettara [] _{ha} (IA-3)
	propriate (1) appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
	propriate (1) appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	Yes (1), G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	100 (E-1-1-1)) <u>1.5</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)
•	2900 (E-1-1-2)) <u>1.2</u> (E-1-4-2) <u>0.4</u> (E-1-5-2)
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary irrigation canal	0 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length o khettara	of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification Gal	lery in catchme lery of conduit en channel khe	3 (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resource	es)	Yes (1), No (2)
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 2	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 2 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and	social support) Yes (1), No (2)
Agriculture (storage,production, tran	sporttion of proc Rehabilitation	School 1 (G-20-4) duct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5)
23. Importance of khettara (1) Unique source for both of potable (2) Unique source for irrigition (3) Main source for irrigation	(G-23)	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reas (G-24)		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number D-068 (G-1)	-	2. Name of commune	A.S.Gheris (G-2)
3. Name of khettara Ben Abede	11	4. Location of khettara	X = 602281.09 (G-4-1)
(G-3)			Y = 90921.6 (G-4-2)
5. Number of families who 10 (Character heat and	G-5-2) families	9. Histry of discharge	Tarie depuis 1880
6. Number of beneficialies 10 (0	G-6-2) families	of khettara	
7. Cycle of kehttara water right 10 (0	G-7-1) days		
8.Discharge of khettara (latest) 0 (0	G-8) lit/sec	(I-10)	
10. History of khettara water flow	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the discha recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland [IA-1]	60 ha	12. Irrigated area by the	khettara <u>O</u> ha (IA-3)
	ropriate (1) appropriate (2)	14.The condition of sch	ools 1 appropriate (1) (G-16) not appropriate (2)
	ropriate (1) appropriate (2)	16.Facility of electricity a telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	Yes (1), G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Section hight(m)	n of khettara (average) i width (m)
Gallery of khettara (Gallery in	<u>100</u> (E-1-1-1) 3000 (E-1-1-2)		,
Khettara as open channel	0 (E-2-1)) 0.8 (E-1-4	
Principal and secondary	0 (E-4-2-1)		
irrigation canal	0 (E-4-2-2)) <u> </u>	-2) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length o khettara	of (M-7)	m) Rehabilitation le irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification			
(2) Partial damage by desertification Gal	lery in catchme lery of conduit en channel khe	<u>1</u> (I-2) Irr	egulation pond (I-5) rigation canals (I-7)
21.Demandes of habitants (water resource	es)	Yes (1), No (2)	
Rehabilitation of khettara 1	(G-19-1)		ke against flood 2 (G-19-4)
Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	nstruction of public wells for	domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and	social support) Yes (1), No (2)	
School 1 (G-20-4) Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5)			
	Rehabilitation		Hospital (G-20-6) Others (G-20-7)
23. Importance of khettara (1) Unique source for both of potable (2) Unique source for irrigation (3) Main source for irrigation	G-23) (G-23) (G-	on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara		(1)Constrains in landscape	(3)Existence of other khettaras
(G-24)	(G-25)	(2)Prohibited by law	(4)Others

1. Khettara Number D-069 MP (G-1)	2. Name of commune A.S.Gheris (G-2)			
3. Name of khettara Kdima	4. Location of khettara X = (G-4-1)			
(G-3)	Y = (G-4-2)			
5. Number of families who [72] (G-5-2) families have khettara water right	9. Histry of discharge			
6. Number of beneficialies 80 (G-6-2) families	s of khettara			
7. Cycle of kehttara water right 16 (G-7-1) days				
8.Discharge of khettara (latest) 19.43 (G-8) lit/sec	(I-10)			
10. History of khettara water flow 6 (I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 				
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara 34.8 ha (IA-3)			
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)			
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)			
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22			
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)			
Gallery of khettara (Gallery in catchment area and conduit 300 (E-1-1) Gallery of khettara (Gallery in catchment area and conduit 6000 (E-1-1)				
Khettara as open channel 0 (E-2-1)				
Principal and secondary1000 (E-4-2irrigation canal0 (E-4-2				
	(m) Rehabilitation length of principal (m) irrigation canal (M-8)			
	inigation canal (IVI-0)			
20. Influence of desertification (1) Significant demonstration Gallery in catchment area (I-1) Regulation pond (I-5)				
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel ki	it [1] (I-2) Irrigation canals [1] (I-7)			
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 2 (G-19-4)				
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
Agriculture (storage,production, transporttion of product, etc.) Rehabilitation of roads 1 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6)				
	tion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others 1 (G-20-7)			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected			
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras			
(G-24) (G-25)	(2)Prohibited by law (4)Others			

KHETTARA DATBASE				
1. Khettara Number E-001 (G-1)	ſΡ	2. Name of c	ommune	A.S. Ziz (G-2)
3. Name of khettara El Ghanamia (G-3)		4. Location o	f khettara	X = <u>603292.53</u> (G-4-1) Y = <u>87922.48</u> (G-4-2)
5. Number of families who have khettara water right50 (G-5- 6. Number of beneficialies65 (G-6- 6. G-6-7. Cycle of kehttara water right13 (G-7- 8. Discharge of khettara (latest)0 (G-8)	2) families	9. Histry of di of khettara		1990 juiller: 6 litter/sec 1991 juiller: 5 litter/sec 1992 augt: 4 litter/sec 1993 augt: 3 litter/sec 1994 augt: 2 litter/sec 1995 augt: 1 litter/sec 1996 augt: 0 litter/sec
10. History of khettara water flow 3 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (4)No water in the past five years (7)The discharge of the khettara is increased				
11. Total area of farmland [100 H (IA-1)	าล	12. Irrigated a	area by the l	khettara <u>0</u> ha (IA-3)
13. The condition of roads 2 appropri- (G-15) not appr	ate (1) opriate (2)	14.The cond	lition of scho	ools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 approprint (G-17)	ate (1) opriate (2)	16.Facility of telecomunication		and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association 2 (G-2)	Yes (1), 1) No (2)	If yes, Name Association		(G-22)
18 Situation of khettara	ength (m)		Section hight(m)	n of khettara (average) width (m)
	00 (E-1-1-1 7 (E-1-1-2		2 (E-1-4- 2 (E-1-4-	
Khettara as open channel	0 (E-2-1) 0 (E-4-2-1 0 (E-4-2-2		0 (E-2-2) 0 (E-4-3- 0 (E-4-3-	-1) 0 (E-4-1-1)
19. Rehabilitation Rehabilitation length of khettara	300 ((M-7)		abilitation le ation canal	ength of principal 0 (m) (M-8)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	in catchme of conduit hannel khe	1 ttara 1] (I-2) Irri] (I-3)	egulation pond (I-5) igation canals (I-7)
Installing pump (G-	-19-1) -19-2) Col -19-3)		Protection dik	e against flood (G-19-4 domestic water (G-19-5 Others (G-19-6
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) Agriculture (storage,production, transporttion of product , etc.) Rehabilitation of roads 1 (G-20-1) Electric supply 1 (G-20-3) (G-20-3) Cheve (G-20-3) (G-20-3) (G-20-3) Cheve (G-20-4) (G-20-4) Cheve (G-20-4) (G-20-4) (G-20-4) (G-20-4) Cheve (G-20-4) (G-20-4) (G-20-4) (G-20-4) (G-20-4) (G-20-4) (G-20-4) (G-20-4) (
 (1) Unique source for both of potable wate (2) Unique source for irrigition (3) Main source for irrigation 	G-23) er and irrigati	on (4) Parti (5) Supp (6) Negl	al source for i blementary sou ected	irrigation urce for irrigation
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24)		(1)Constrains ir (2)Prohibited by		(3)Existence of other khettaras (4)Others

1. Khettara Number E-002 (G-1)	MP	2. Name of commune Sifa (G-2)		
· · · · · · · · · · · · · · · · · · ·	t			
3. Name of khettara (G-3)	r	4. Location of khettara $X = 603287.92$ (G-4-1) Y = 86841.19 (G-4-2)		
5. Number of families who have khettara water right	96 (G-5-2) families	9. Histry of discharge 1999: 6 litter/sec		
-		of khettara 2000: 6 litter/sec 2001: 6 litter/sec		
	12 (G-7-1) days	2002 mars: 6 litter/sec		
	35 (G-8) lit/sec	2003 juillet: 5 litter/sec		
		(I-10)		
10. History of khettara water flow	(),			
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased				
11. Total area of farmland	200 ha A-1)	12. Irrigated area by the khettara 50 ha (IA-3)		
13. The condition of roads [1 (G-15	appropriate (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18) not appropriate (2)		
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of G-22		
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit	800 (E-1-1-1) 5950 (E-1-1-2)) <u>2</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)		
Khettara as open channel	820 (E-2-1)	0.5 (E-2-2) 0.4 (E-2-3)		
Principal and secondary irrigation canal	0.4 (E-4-2-1) 0 (E-4-2-2)			
19. Rehabilitation Rehabilitation len khettara	gth of 800 (r (M-7)	m) Rehabilitation length of principal 200 (m) irrigation canal (M-8)		
20. Influence of desertification				
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khet	[1] (I-2) Irrigation canals [1] (I-7)		
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood (G-19-4)				
Installing pump Rehabilitation of irrigation canal	(G-19-2) Cor (G-19-3)	nstruction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
Agriculture (storage,production, transporttion of product, etc.) (G-20-1) Sanitary system 1 (G-20-4) Rehabilitation of roads 1 (G-20-2) Hospital (G-20-6) Electric supply (G-20-3) Others (G-20-7)				
23. Importance of khettara 2 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected				
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, the	e reason ((1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number E-003 (G-1)		2. Name of commune Sifa (G-2)		
3. Name of khettara El Bou (G-3)	ria	4. Location of khettara $X = 602225$ (G-4-1) Y = 88508.32 (G-4-2)		
5. Number of families who have khettara water right	96 (G-5-2) families	9. Histry of discharge of khettara 1989: 8 litter/sec 1990 janvier: 0 litter/sec		
6. Number of beneficialies	30 (G-6-2) families	of khettara 1990 janvier: 0 litter/sec		
7. Cycle of kehttara water right	12 (G-7-1) days			
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 2	(I-9)			
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 				
11. Total area of farmland	250 ha A-1)	12. Irrigated area by the khettara Oha (IA-3)		
13. The condition of roads [1 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of G-22		
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in	335 (E-1-1-1)) 2.5 (E-1-4-1) 0.5 (E-1-5-1)		
catchment area and conduit	6185 (E-1-1-2)			
Khettara as open channel	<u>282</u> (E-2-1)	0.6 (E-2-2) 0.4 (E-2-3)		
Principal and secondary irrigation canal	282 (E-4-2-1 0 (E-4-2-2			
19. Rehabilitation Rehabilitation len khettara	gth of (M-7)	m) Rehabilitation length of principal (M) irrigation canal (M-8)		
20. Influence of desertification				
(1)Significant damage by desertification Gallery in catchment area 3 (I-1) Regulation pond (I-5)				
(2)Partial damage by desertification (3)Negligible damage by desertification	Gallery of conduit Open channel khe	1(I-2)Irrigation canals1(I-7)ttara1(I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood (G-19-4)				
Installing pump Rehabilitation of irrigation canal 1		nstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
School 1 (G-20-4)				
Agriculture (storage,production, transportion of product , etc.) (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital (G-20-6) Electric supply (G-20-3) Others (G-20-7)				
23. Importance of khettara (G-23)				
 (1) Unique source for both of por (2) Unique source for irrigition (3) Main source for irrigation 	. ,	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara	24. Possibility of extension of khettara			
Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number E-004 (G-1)	MP	2. Name of commune Sifa (G-2)
3. Name of khettara Laaga	уа	4. Location of khettara $X = 603333.34$ (G-4-1)
(G-3)		Y = 84762.335 (G-4-2)
5. Number of families who have khettara water right		9. Histry of discharge
6. Number of beneficialies	72 (G-6-2) families	of khettara 1984 augt: 3 litter/sec 1985 augt: 3 litter/sec
7. Cycle of kehttara water right	13 (G-7-1) days	1986 augt: 3 litter/sec 1989 augt: 0 litter/sec
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow	3 (I-9)	
(1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [31 ha A-1)	12. Irrigated area by the khettara 0ha (IA-3)
13. The condition of roads 1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) (C-18)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Sifa Association (G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	500 (E-1-1-1) 3800 (E-1-1-2)) <u>1.5</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)
Khettara as open channel	<u>500</u> (E-2-1)	0.4 (E-2-2) 0.4 (E-2-3)
Principal and secondary irrigation canal	500 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation ler khettara	ngth of 1500 (I (M-7)	m) Rehabilitation length of principal 400 (m) irrigation canal (M-8)
20. Influence of desertification	· ·	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water res	ources)	Yes (1), No (2)
Rehabilitation of khettara 1 Installing pump	(G-19-1) (G-19-2) Cor	Protection dike against flood (G-19-4) nstruction of public wells for domestic water (G-19-5)
Rehabilitation of irrigation canal 1	(G-19-2) (G-19-3)	Others (G-19-6)
22.Demandes of habitants (Aglicultua	I and social support	
Agriculture (storage,productior	Rehabilitation	
23. Importance of khettara 2 (1) Unique source for both of pr (2) Unique source for irrigition (3) Main source for irrigation		
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, th	e reason ((1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

KHETTARA DATBASE					
1. Khettara Number E-005 (G-1)	MP	2. Name	e of commune	Sifa (G-2)	
3. Name of khettara Jdida Bel H (G-3)		4. Locat	ion of khettara		610.01 (G-4-1) 170.7 (G-4-2)
5. Number of families who have khettara water right50 (C6. Number of beneficialies70 (C7. Cycle of kehttara water right12 (C8.Discharge of khettara (latest)0.5 (C	G-6-2) ^{families} G-7-1) days	9. Histry of khetta	v of discharge ara (I-10)	1993: 5 litter/s 1994 mars: 2 1995 mars: 1 1996 mars: 0. 2003 juillet: 0.	litter/sec litter/sec 5 litter/sec
10. History of khettara water flow 3	(I-9)		, , , , , , , , , , , , , , , , , , ,		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	ra has wate recent five rge of the l	eason in the past five er flow, but the discha years. chettara is constant chettara is increased	arge of khettara is	s reduced each
11. Total area of farmland (IA-1)	0 ha	12. Irrig	ated area by the	khettara	0.5ha (IA-3)
	ropriate (1) appropriate (2)		condition of sch	(G-16)	appropriate (1) not appropriate (2)
	ropriate (1) appropriate (2)		lity of electricity a nunication		appropriate (1) not appropriate (2)
17. Existence of Association	Yes (1), G-21) No (2)	If yes, N Associa	lame of ation	Sifa (G-22)	
18. Situation of khettara	Length (m)		Sectior hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in	<u>150</u> (E-1-1-1 6200 (E-1-1-2	· .	2 (E-1-4 3 (E-1-4	<i>'</i>	<u>0.5</u> (E-1-5-1) 0.5 (E-1-5-2)
Khettara as open channel	770 (E-2-1)		0.35 (E-2-2)	0.3 (E-2-3)
Principal and secondary irrigation canal	<u>30</u> (E-4-2-1 0 (E-4-2-2	·	0.35 (E-4-3 0 (E-4-3		0.5 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length o khettara	f 2000 ((M-7)	m)	Rehabilitation le	ength of princi	pal 400 (m) (M-8)
20. Influence of desertification				agulation pop	d 🗌 (I-5)
(1)Significant damage by desentification (2)Partial damage by desentification (3)Negligible damage by desentification	ery in catchme ery of conduit en channel khe	ettara	1 (I-2) Irr 1 (I-3)	egulation pon	
21.Demandes of habitants (water resource	,	Yes	(1), No (2)		
Rehabilitation of khettara 1 Installing pump Rehabilitation of irrigation canal	(G-19-1) (G-19-2) Cor (G-19-3)	nstruction	Protection dil of public wells for	ke against flood domestic wate Others	r (G-19-5)
22.Demandes of habitants (Aglicultual and	. ,) Yes	(1), No (2)		
Agriculture (storage,production, trans	sporttion of proc Rehabilitatio	′ duct , etc.) (G-20-1) 5 1 (G-20-2)	Sanitary syste Hospi	
23. Importance of khettara (1) Unique source for both of potable (2) Unique source for irrigition (3) Main source for irrigation] (G-23) water and irrigati	(5) Partial source for) Supplementary so) Neglected	irrigation ource for irrigatio	n
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reas (G-24)			ains in landscape ited by law	(3)Existence ((4)Others	of other khettaras

1. Khettara Number E-006 MP (G-1)	2. Name of commune Sifa (G-2)
3. Name of khettara (G-3)	4. Location of khettara $X = 603440.78$ (G-4-1) Y = 83331.02 (G-4-2)
5. Number of families who 50 (G-5-2) families have khettara water right	9. Histry of discharge 1988 augt: 2 litter/sec of khettara 1989 augt: 2 litter/sec
6. Number of beneficialies 100 (G-6-2) families	of khettara 1989 augt: 2 litter/sec 1990 augt: 0 litter/sec
7. Cycle of kehttara water right 12 (G-7-1) days]
8.Discharge of khettara (latest) 4 (G-8) lit/sec	(I-10)
10. History of khettara water flow 3 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 300 (E-1-1-	······································
catchment area and conduit [7200] (E-1-1-	
Khettara as open channel 451 (E-2-1)	0.35 (E-2-2) 0.25 (E-2-3)
Principal and secondary 51 (E-4-2-	
irrigation canal (E-4-2-	
19. Rehabilitation Rehabilitation length of 2000 khettara (M-7)	(m) Rehabilitation length of principal 800 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [2] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
Installing pump (G-19-2) C Rehabilitation of irrigation canal (G-19-3) (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 1 (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply (G-20-3) Others (G-20-7)
23. Importance of khettara 2 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number E-007 (G-1)	MP	2. Name of commune Sifa (G-2)
· · · · · · · · · · · · · · · · · · ·	t	4. Location of khettara X = 603226.26 (G-4-1)
3. Name of khettara (G-3)	<u>i</u>	4. Location of knettara $Y = 1003220.201 (G-4-1)$ Y = 84126.64 (G-4-2)
5. Number of families who 10 10 10 10 10 10 10 10 10 10 10 10 10		9. Histry of discharge 1999 mars: 15 litter/sec
-	20 (G-6-2) families	of khettara 2000 mars: 14 litter/sec 2001 mars: 13 litter/sec
	12 (G-7-1) days	2002 mars: 12 litter/sec
	67 (G-8) lit/sec	2003 fevrier: 11 litter/sec (I-10)
10. History of khettara water flow	6 (1-9)	
(1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years	(5) No water ir (6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [120 ha A-1)	12. Irrigated area by the khettara 25 ha (IA-3)
13. The condition of roads [1 (G-15)	appropriate (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	200 (E-1-1-1) 4880 (E-1-1-2)) <u>1.8</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	<u>881</u> (E-2-1)	0.35 (E-2-2) 0.4 (E-2-3)
Principal and secondary irrigation canal	0 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation ler khettara	ngth of 1500 (I (M-7)	m) Rehabilitation length of principal 900 (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khet	[1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water res	ources)	Yes (1), No (2)
Rehabilitation of khettara 1 Installing pump Rehabilitation of irrigation canal	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood (G-19-4) nstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultua	l and social support) Yes (1), No (2)
Agriculture (storage,production	n, transporttion of prod Rehabilitatior	School <u>1</u> (G-20-4) duct , etc.) (G-20-1) Sanitary system <u>1</u> (G-20-5)
23. Importance of khettara (1) Unique source for both of por (2) Unique source for irrigition (3) Main source for irrigation		
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, the	e reason ((1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number E-008 MP (G-1)	2. Name of commune Sifa (G-2)		
	4. Location of khettara X = 602048.02 (G-4-1)		
3. Name of khettara Lakdima Dou (G-3)	4. Location of knettara $\chi = 602040.02$ (G-4-1) Y = 84290.05 (G-4-2)		
5. Number of families who96 (G-5-2) families have khettara water right	9. Histry of discharge		
6. Number of beneficialies 296 (G-6-2) families	of khettara		
7. Cycle of kehttara water right 12 (G-7-1) days			
8.Discharge of khettara (latest) 23.84 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 7 (I-9)			
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased		
11. Total area of farmland 520 ha (IA-1)	12. Irrigated area by the khettara 250 ha (IA-3)		
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association (G-21) No (2)	If yes, Name of G-22		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in 800 (E-1-1-	· · · · · · · · · · · · · · · · · · ·		
catchment area and conduit 3700 (E-1-1-			
Khettara as open channel 3248 (E-2-1)	·		
Principal and secondary 1150 (E-4-2-	1) 0.45 (E-4-3-1) 1.25 (E-4-1-1)		
irrigation canal			
19. Rehabilitation Rehabilitation length of			
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification Gallery of condu			
(3)Negligible damage by desertification Open channel kh			
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)		
Installing pump (G-19-2) C Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social suppo			
Agriculture (storage,production, transporttion of pr	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5)		
Rehabilitat	ion of roads 1 (G-20-2) Hospital 1 (G-20-6) actric supply (G-20-3) Others 1 (G-20-7)		
23. Importance of khettara 2 (G-23)			
(1) Unique source for both of potable water and irrigation (4) Partial source for irrigation			
(2) Unique source for irrigition(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected		
24. Possibility of extension of khettara			
1 Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras		
(G-24) (G-25)	(2)Prohibited by law (4)Others		

1. Khettara Number E-009 MP (G-1)	2. Name of commune Sifa (G-2)
	4. Location of khettara X = 601845.31 (G-4-1)
3. Name of khettara (G-3)	$Y = \frac{601843.31}{84978} (G-4-2)$
5. Number of families who 300 (G-5-2) families	9. Histry of discharge 1990 - 2002 augt: 5 litter/sec
6. Number of beneficialies 400 (G-6-2) families	s of khettara 2003 juillet: 1.5 litter/sec
7. Cycle of kehttara water right 9 (G-7-1) days	
8.Discharge of khettara (latest) 1.2 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in ti(4)No water in the past five years(7)The disc	er in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland 120 ha (IA-1)	12. Irrigated area by the khettara [2]ha (IA-3)
13. The condition of roads 1 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association 2 Yes (1) (G-21) No (2)	, If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 1100 (E-1-1	
catchment area and conduit [3400 (E-1-1	
Khettara as open channel 1440 (E-2-1	
Principal and secondary 1300 (E-4-2	-1) 0.3 (E-4-3-1) 1.05 (E-4-1-1)
irrigation canal (E-4-2	
19. Rehabilitation Rehabilitation length of [1000 khettara (M-7)	(m) Rehabilitation length of principal 500 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	it [1] (I-2) Irrigation canals [3] (I-7)
21.Demandes of habitants (water resources)	hettara <u>3</u> (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	
Installing pump (G-19-2)	Construction of public wells for domestic water (G-19-5)
Rehabilitation of irrigation canal 1 (G-19-3)	Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	tion of roads 1 (G-20-2) Hospital 1 (G-20-6)
	ectric supply (G-20-3) Others (G-20-7)
 23. Importance of khettara (1) Unique source for both of potable water and irrig: (2) Unique source for irrigition (3) Main source for irrigation 	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number E-010 MI (G-1)		2. Name of commune Sifa (G-2)
3. Name of khettara Laglaglia (G-3)		4. Location of khettara $X = 600509.38$ (G-4-1) Y = 84539.28 (G-4-2)
5. Number of families who 80 (G-5-2 have khettara water right	e) families	9. Histry of discharge
6. Number of beneficialies 160 (G-6-2	c) families	of khettara
7. Cycle of kehttara water right 10 (G-7-1) days	
8.Discharge of khettara (latest) 3 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 8	(I-9)	
(2)No water in the last two-decade(6)(3)No water in the last decade(7)(4)No water in the past five years(7))The khettar year in the)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland 400 ha	l	12. Irrigated area by the khettara [70]ha (IA-3)
13. The condition of roads (G-15) not appropria		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropria (G-17) not appro		16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association [1 (G-21)	Yes (1), No (2)	If yes, Name of EI M'harza Association (G-22)
18. Situation of khettara Ler	ngth (m)	Section of khettara (average) hight(m) width (m)
) (E-1-1-1) (E-1-1-2)	
	(E-2-1)	0.4 (E-2-2) 0.35 (E-2-3)
) (E-4-2-1)) (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara	800 ((M-7)	m) Rehabilitation length of principal 400 (m) irrigation canal (M-8)
20. Influence of desertification	、	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	n catchme of conduit annel khe	[1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-1 Installing pump (G-1 Rehabilitation of irrigation canal 1 (G-1	9-2) Cor	Protection dike against flood (G-19-4) nstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and soci	al support) Yes (1), No (2)
		School 1 (G-20-4)
Agriculture (storage,production, transport R	ehabilitatio	duct , etc.) (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply (G-20-3) Others (G-20-7)
 (1) Unique source for both of potable water (2) Unique source for irrigation (3) Main source for irrigation 	-23) · and irrigation	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason [(G-24) (0		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number E-011 - (G-1)	2. Name of commune Sifa (G-2)
	4. Location of khettara X = 602237.78 (G-4-1)
3. Name of khettara (G-3)	$Y = \begin{bmatrix} 0.02237.76 \\ 0.02237.76 \\ 0.0247 \end{bmatrix} (G-4-2)$
5. Number of families who Analysis (G-5-2) families	9. Histry of discharge 40 ans: 4 litter/sec of khettara 1997 augt: 0
6. Number of beneficialies 100 (G-6-2) families	of khettara 1997 augt: 0
7. Cycle of kehttara water right 9 (G-7-1) days]
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 3 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 150 (E-1-1-1	
catchment area and conduit 5900 (E-1-1-2	
Khettara as open channel 1142 (E-2-1)	0.3 (E-2-2) 0.3 (E-2-3)
Principal and secondary 25 (E-4-2-	
irrigation canal	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchmo	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4) duct , etc.) (G-20-1) Sanitary system 1 (G-20-5)
Rehabilitatio	On of roads (G-20-2) Hospital (G-20-6) ctric supply (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation 	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number E-012 MP (G-1)	2. Name of commune Sifa (G-2)		
3. Name of khettara Jdida Lhaj (G-3)	4. Location of khettara $X = 602725.2$ (G-4-1) Y = 82467.21 (G-4-2)		
5. Number of families who (G-5-2) families have khettara water right	9. Histry of discharge 1988 - 1993: 2 litter/sec of khettara 1994: 0 litter/sec		
6. Number of beneficialies 110 (G-6-2) families	of khettara 1994: 0 litter/sec		
7. Cycle of kehttara water right 13 (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 3 (I-9)			
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased		
11. Total area of farmland 100 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)		
13. The condition of roads 1 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)		
17. Existence of Association2Yes (1),(G-21)No (2)	If yes, Name of G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in 650 (E-1-1-	· · · · · · · · · · · · · · · · · · ·		
catchment area and conduit 4580 (E-1-1-2			
Khettara as open channel 600 (E-2-1)	0.5 (E-2-2) 0.5 (E-2-3)		
Principal and secondary 500 (E-4-2-			
irrigation canal 0 (E-4-2-2			
19. Rehabilitation Rehabilitation length of 3000			
khettara (M-7)	irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification Gallery in catchm			
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh			
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)		
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support			
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5)		
Rehabilitati	on of roads (G-20-2) Hospital (G-20-6) ctric supply (G-20-3) Others (G-20-7)		
23. Importance of khettara 2 (G-23)			
(1) Unique source for both of potable water and irrigation (4) Partial source for irrigation			
(2) Unique source for irrigition(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras		
[1Yes (1), No (2) If no, the reason [] (G-24) (G-25)	(2)Prohibited by law (4)Others		

KHETTARA DATBASE					
1. Khettara Number E-013 (G-1)	MP	2. Name of commune	Sifa (G-2)		
(G-3)	uilia K	4. Location of khettara	X = <u>603440.78</u> (G-4-1) Y = <u>83331.02</u> (G-4-2)		
nave knettara water right	100 (G-5-2) families 150 (G-6-2) families 12 (G-7-1) days 3.5 (G-8) lit/sec	9. Histry of discharge of khettara (I-10)	1999 mars: 13 litter/sec 2000 augt: 10 litter/sec 2001 augt: 9 litter/sec 2002 mars: 7 litter/sec 2003 juiller: 3.5 litter/sec		
 10. History of khettara water flow (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	10. History of khettara water flow 6 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.				
11. Total area of farmland	140 ha (IA-1)	12. Irrigated area by the	khettara <u>30</u> ha (IA-3)		
13. The condition of roads (G-1	appropriate (1) not appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)		
15.Sanitary service 2 (G-1	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)		
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Lamharza (G-22)		
18. Situation of khettara Gallery of khettara (Gallery in catchment area and conduit	Length (m) 300 (E-1-1-1 5370 (E-1-1-2	hight(m)) <u>2</u> (E-1-4	-1) <u>0.6</u> (E-1-5-1)		
Khettara as open channel Principal and secondary irrigation canal	870 (E-2-1) 15 (E-4-2-1 0 (E-4-2-2		3-1) <u> </u>		
19. Rehabilitation Rehabilitation le khettara	ength of 1500 ((M-7)	m) Rehabilitation le irrigation canal	ength of principal 200 (m) (M-8)		
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	1 (I-2) In ttara 2 (I-3)	egulation pond (I-5) rigation canals 2 (I-7)		
21.Demandes of habitants (water re Rehabilitation of khettara Installing pump Rehabilitation of irrigation canal	(G-19-1) (G-19-2) Co (G-19-3)	nstruction of public wells for	ke against flood domestic water Others 1 (G-19-4) (G-19-5) (G-19-6)		
 22.Demandes of habitants (Aglicultu Agriculture (storage,production) 23. Importance of khettara 2 	on, transporttion of proc Rehabilitatio Elec (G-23)	duct , etc.) (G-20-1) n of roads 1 (G-20-2) tric supply (G-20-3)	School 1 (G-20-4 Sanitary system 1 (G-20-5 Hospital (G-20-6 Others 1 (G-20-7)		
 (1) Unique source for both of (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khetta 		on (4) Partial source for (5) Supplementary so (6) Neglected	irrigation burce for irrigation		
1 Yes (1), No (2) If no, t (G-24)		(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others		

	-		
1. Khettara Number E-014 (G-1)	MP	2. Name of commune Sil	a
3. Name of khettara Haj All	al		= <u>601462.89</u> (G-4-1) = 84887.83 (G-4-2)
(G-3) 5. Number of families who have khettara water right	00 (G-5-2) families	9. Histry of discharge	<u>= 84887.83</u> (G-4-2)
_	60 (G-6-2) families	of khettara	
7. Cycle of kehttara water right	9 (G-7-1) days		
8.Discharge of khettara (latest) 24.	86 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 8	(1-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	h the dry season in the past five yea a has water flow, but the discharge recent five years. rge of the khettara is constant rge of the khettara is increased	
11. Total area of farmland	180 ha A-1)	12. Irrigated area by the khe	ttara <u>180</u> ha (IA-3)
13. The condition of roads [1 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools	1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication	1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of ELL Association (G-	Viharza 22)
18. Situation of khettara	Length (m)	Section of hight(m)	khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	<u>300</u> (E-1-1-1) 4500 (E-1-1-2)) <u>2</u> (E-1-4-1)	0.5 (E-1-5-1) 1.5 (E-1-5-2)
Khettara as open channel	4239 (E-2-1)	0.6 (E-2-2)	0.45 (E-2-3)
Principal and secondary irrigation canal	130 (E-4-2-1 0 (E-4-2-2		1 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation len khettara	gth of 700 ((M-7)	m) Rehabilitation lengt irrigation canal	h of principal 700 (m) (M-8)
20. Influence of desertification	· · · ·		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	1 (I-2) Irrigat	ation pond (I-5) ion canals <u>3</u> (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike ag nstruction of public wells for dom	
22.Demandes of habitants (Aglicultua	and social support) Yes (1), No (2)	
Agriculture (storage,production	Rehabilitatio		School 1 (G-20-4) nitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara 2 (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irriga (5) Supplementary source (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)	e reason		Existence of other khettaras Others

1. Khettara Number E-015 (G-1)	MP	2. Name of commune	Sifa (G-2)
3. Name of khettara [ghzei (G-3)		4. Location of khettara	X = 602544.57 (G-4-1) Y = 82034.07 (G-4-2)
5 Number of families who	08 (G-5-2) families	9. Histry of discharge	1998 oct: 5 litter/sec 1999 fevrier: 4 litter/sec
6. Number of beneficialies 2	08 (G-6-2) families	of khettara	2000 augt: 3 litter/sec
7. Cycle of kehttara water right	13 (G-7-1) days		2001 augt: 2 litter/sec 2002 augt: 2 litter/sec
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	2003 juiller: 1.5 litter/sec
10. History of khettara water flow	6 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five a has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	narge of khettara is reduced each
11. Total area of farmland (I	200 ha A-1)	12. Irrigated area by the	e khettara <u>100</u> ha (IA-3)
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	nools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average))
Gallery of khettara (Gallery in catchment area and conduit	1400 (E-1-1-1) 3750 (E-1-1-2)) <u>1.4</u> (E-1-4	4-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	400 (E-2-1)	0.5 (E-2-2	2) <u>0.4</u> (E-2-3)
Principal and secondary irrigation canal	400 (E-4-2-1 0 (E-4-2-2		/ i
19. Rehabilitation Rehabilitation ler khettara	ngth of 3000 ((M-7)	m) Rehabilitation I irrigation canal	length of principal 200 (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>1</u> (I-2) Ir	Regulation pond (I-5) rigation canals 1 (I-7)
21.Demandes of habitants (water res	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump		Protection di nstruction of public wells for	
Rehabilitation of irrigation canal	(G-19-3)		Others (G-19-6)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)			
Agriculture (storage,production	Rehabilitatio		Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others (G-20-7)
23. Importance of khettara 2 (1) Unique source for both of pr (2) Unique source for irrigtion (3) Main source for irrigation	(G-23)		r irrigation
24. Possibility of extension of khettar 1 Yes (1), No (2) If no, th (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

KHETTARA DATBASE			
1. Khettara Number E-016 MP (G-1)	2. Name of commune Sifa (G-2)		
3. Name of khettara Charchmia (G-3)	4. Location of khettara $X = 601273.07$ (G-4-1) Y = 84836.61 (G-4-2)		
5. Number of families who have khettara water right420 (G-5-2) families6. Number of beneficialies580 (G-6-2) families7. Cycle of kehttara water right8 (G-7-1) days8. Discharge of khettara (latest)18.55 (G-8) lit/sec	9. Histry of discharge of khettara of khettara 2000 augt: 25 litter/sec 2001 augt: 10 litter/sec 2002 mars: 10 litter/sec 2003 avril: 13 litter/sec		
10. History of khettara water flow 6 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (4)No water in the past five years (7)The discharge of the khettara is increased			
11. Total area of farmland [128] ha (IA-1)	12. Irrigated area by the khettara [128]ha (IA-3)		
13. The condition of roads1appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association2Yes (1)(G-21)No (2)			
18. Situation of khettaraLength (m)Gallery of khettara (Gallery in catchment area and conduit70 (E-1-1)4620 (E-1-1)	-1) <u>1.5</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)		
Khettara as open channel 1169 (E-2-1 Principal and secondary 0 (E-4-2 irrigation canal 0 (E-4-2) 0.35 (E-2-2) 0.4 (E-2-3) -1) 0 (E-4-3-1) 0 (E-4-1-1)		
	(m) Rehabilitation length of principal 400 (m) irrigation canal (M-8)		
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	it <u>1</u> (I-2) Irrigation canals <u>1</u> (I-7) hettara <u>1</u> (I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2) Rehabilitation of khettara (G-19-1) Installing pump (G-19-2) Rehabilitation of irrigation canal (G-19-3) Yes (1), No (2) Protection dike against flood (G-19-4) (G-19-2) Construction of public wells for domestic water (G-19-5) (G-19-3) Others (G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4 Agriculture (storage,production, transporttion of product , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5 Rehabilitation of roads 1 (G-20-3) Hospital 1 (G-20-7) Control 1 (G-20-7) Control 1 (G-20-7)			
23. Importance of khettara 2 (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24) (G-25) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others		

1. Khettara Number E-017 - (G-1)	2. Name of commune Sifa (G-2)		
3. Name of khettara Labbiria (G-3)	4. Location of khettara X = <u>602356.14</u> (G-4-1) Y = <u>86973.24</u> (G-4-2)		
5. Number of families who 68 (G-5-2) families	9. Histry of discharge		
6. Number of beneficialies 960 (G-6-2) families	of khettara		
7. Cycle of kehttara water right 12 (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow (I-9)			
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			
11. Total area of farmland 50 ha (IA-1)	12. Irrigated area by the khettara [50]ha (IA-3)		
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association 1 Yes (1) (G-21) No (2)	If yes, Name of Association Sifa Association (G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in 1000 (E-1-1-	· · · · · · · · · · · · · · · · · · ·		
catchment area and conduit 5000 (E-1-1-			
Khettara as open channel 0 (E-2-1)			
Principal and secondary 1000 (E-4-2	-1) 0.3 (E-4-3-1) 0.4 (E-4-1-1)		
irrigation canal 600 (E-4-2	-2) 0.3 (E-4-3-2) 0.4 (E-4-1-2)		
19. Rehabilitation Rehabilitation length of 1000 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification Gallery in catchn	nent area (I-1) Regulation pond (I-5)		
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kl			
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)			
Installing pump (G-19-2) C Rehabilitation of irrigation canal (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support			
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5) Rehabilitation of roads (G-20-2) Hospital (G-20-6)			
	ectric supply (G-20-3) Others (G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara			
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others		

1. Khettara Number E-018 - (G-1)	2. Name of commune Sifa (G-2)		
3. Name of khettara Zaoiua Boub	4. Location of khettara X = 602411.21 (G-4-1)		
(G-3)	Y = 81117.77 (G-4-2)		
5. Number of families who G-5-2) families who G-5-2) families who G-5-2) families who G-5-2	9. Histry of discharge		
6. Number of beneficialies 560 (G-6-2) familiar	ilies of khettara		
7. Cycle of kehttara water right 12 (G-7-1) day	ys		
8.Discharge of khettara (latest) 0 (G-8) lit/s	(I-10)		
10. History of khettara water flow 1 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			
11. Total area of farmland 125 ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)		
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	2)16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association Yes (G-21) No (
18. Situation of khettara Length (r	m) Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in 900 (E-1	· · · · · · · · · · · · · · · · · · ·		
catchment area and conduit [4800] (E-1	-1-2) 0.8 (E-1-4-2) 0.6 (E-1-5-2)		
Khettara as open channel 0 (E-2	e-1) 0 (E-2-2) 0 (E-2-3)		
Principal and secondary [1300 (E-4 irrigation canal 0 (E-4			
19. Rehabilitation Rehabilitation length of			
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)		
20. Influence of desertification	shment area [3] (I-1) Regulation pond [] (I-5)		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	duit (I-2) Irrigation canals (I-7)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4)			
Installing pump (G-19-2) Rehabilitation of irrigation canal (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)School1(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital(G-20-6)Electric supply(G-20-3)Others1(G-20-7)			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and ir (2) Unique source for irrigation (3) Main source for irrigation	rigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara			
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others		

1. Khettara Number E-019 (G-1)		2. Name of commune Sifa (G-2)	
3. Name of khettara Chrichn (G-3)	nia	4. Location of khettara $X = 601139.9$ (G-4-1) Y = 85192.59 (G-4-2)	
5. Number of families who have khettara water right		9. Histry of discharge	
6. Number of beneficialies	0 (G-6-2) families	of khettara	
7. Cycle of kehttara water right	0 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			
11. Total area of farmland [IA	ha -1)	12. Irrigated area by the khettara [0]ha (IA-3)	
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association	(G-21) Yes (1), (2)	If yes, Name of G-22	
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in	0 (E-1-1-1)	· · · · · · · · · · · · · · · · · · ·	
catchment area and conduit	0 (E-1-1-2)		
Khettara as open channel	<u> </u>	0 (E-2-2) 0 (E-2-3)	
Principal and secondary	0 (E-4-2-1)) 0 (E-4-3-1) 0 (E-4-1-1)	
irrigation canal	0 (E-4-2-2)) (E-4-3-2) (E-4-1-2)	
19. Rehabilitation Rehabilitation leng	th of	m) Rehabilitation length of principal (m)	
khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification			
(1)Significant damage by desertification	Gallery in catchme		
(2)Partial damage by desertification	Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7) (I-3)	
21.Demandes of habitants (water resou	urces)	Yes (1), No (2)	
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)			
Installing pump	(G-19-2) Cor (G-19-3)	Astruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5)			
	Rehabilitation		
23. Importance of khettara	(G-23)		
(1) Unique source for both of pot	. ,	on (4) Partial source for irrigation	
(2) Unique source for irrigtion (3) Main source for irrigation		(5) Supplementary source for irrigation(6) Neglected	
		(U) MEGIECIEU	
24. Possibility of extension of khettara	,		
Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number E-020 (G-1)	2. Name of commune Sifa (G-2)		
	4. Location of khettara X = 600927.83 (G-4-1)		
3. Name of khettara El Handouria (G-3)	$Y = \begin{bmatrix} 84728.36 \\ G-4-2 \end{bmatrix}$		
5. Number of families who 0 (G-5-2) families	9. Histry of discharge 0		
6. Number of beneficialies 0 (G-6-2) families	of khettara		
7. Cycle of kehttara water right 0 (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 1 (I-9)			
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			
11. Total area of farmland 0 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)		
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit500 (E-1-1-1) 6500 (E-1-1-2)			
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)		
Principal and secondary0 (E-4-2-1)irrigation canal0 (E-4-2-2)			
19. Rehabilitation Rehabilitation length of khettara 0 (m) (M-7) Rehabilitation length of principal (M-8)			
20. Influence of desertification			
(1)Significant damage by desertification Gallery in catchme	ent area (I-1) Regulation pond (I-5)		
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe			
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)			
Installing pump (G-19-2) Construction of public wells for domestic water (G-19-5) Rehabilitation of irrigation canal (G-19-3) Others (G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5) Rehabilitation of roads (G-20-2) Hospital (G-20-6)			
Electric supply (G-20-3) Others (G-20-7)			
23. Importance of khettara(G-23)(1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation(4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected			
24. Possibility of extension of khettara			
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number E-021 (G-1)		2. Name of commune Sifa (G-2)	
,	1		
3. Name of khettara El Kida (G-3)	aria	4. Location of khettara X = <u>600065.1</u> (G-4-1) Y = <u>84026.52</u> (G-4-2)	
5. Number of families who have khettara water right	0 (G-5-2) families	9. Histry of discharge	
6. Number of beneficialies	0 (G-6-2) families	of khettara	
7. Cycle of kehttara water right	0 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased			
11. Total area of farmland	0 ha A-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads [1 (G-15	appropriate (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) (1) not appropriate (2)	
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1) 8000 (E-1-1-2)		
Khettara as open channel	0 (E-2-1)) 0 (E-1-4-2) 0 (E-1-5-2) 0 (E-2-2) 0 (E-2-3)	
Principal and secondary irrigation canal	0 (E-4-2-1 0 (E-4-2-2		
10 Dehebilitation Dehebilitation lar			
19. Rehabilitation Rehabilitation ler khettara	ngth of 0 ((M-7)	m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)	
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)			
Installing pump Rehabilitation of irrigation canal	(G-19-2) Cor (G-19-3)	nstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultua	I and social support) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5)			
	Rehabilitatio		
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others	

1. Khettara Number E-022 - (G-1)	2. Name of commune Sifa (G-2)		
3. Name of khettara Loulija (G-3)	4. Location of khettara X = <u>603508.37</u> (G-4-1) Y = <u>87499.63</u> (G-4-2)		
5. Number of families who 35 (G-5-2) families	9. Histry of discharge		
6. Number of beneficialies 600 (G-6-2) families	of khettara		
7. Cycle of kehttara water right 12 (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow (I-9)			
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara 40ha (IA-3)		
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of AssociationAssociation Sifa(G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit500 (E-1-1-2)5500 (E-1-1-2)) <u>3</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)		
Khettara as open channel [0 (E-2-1)	0 (E-2-2) 0 (E-2-3)		
Principal and secondary1500 (E-4-2-7)irrigation canal0 (E-4-2-2)			
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals (I-7)		
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)			
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5) Rehabilitation of roads (G-20-2) Hospital (G-20-6) Electric supply (G-20-3) Others (G-20-7)			
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khettara 			
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number E-023 (G-1)		2. Name of commune Sifa (G-2)	
3. Name of khettara Dhimir (G-3)	nia	4. Location of khettara $X = 600933.66$ (G-4-1) Y = 84155.44 (G-4-2)	
5. Number of families who have khettara water right	0 (G-5-2) families	9. Histry of discharge 0	
6. Number of beneficialies	0 (G-6-2) families	of khettara	
7. Cycle of kehttara water right	0 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased			
11. Total area of farmland	0 ha \-1)	12. Irrigated area by the khettara [0]ha (IA-3)	
13. The condition of roads [1 (G-15	appropriate (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association	2 Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1) 6000 (E-1-1-2)		
Khettara as open channel	<u> </u>	0 (E-2-2) 0 (E-2-3)	
Principal and secondary irrigation canal	0 (E-4-2-1) 0 (E-4-2-2)		
19. Rehabilitation Rehabilitation len khettara			
20. Influence of desertification	(
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4) Installing pump (G-19-2) Construction of public wells for domestic water (G-19-5) Rehabilitation of irrigation canal (G-19-3) Others (G-19-6)			
22.Demandes of habitants (Aglicultua	. ,		
School (G-20-4)			
Agriculture (storage,production	Rehabilitation		
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigation (3) Main source for irrigation	(G-23) table water and irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others	

1. Khettara Number E-024 - (G-1)	2. Name of commune Sifa (G-2)	
	、	
3. Name of khettara El Bakhbakh (G-3)	4. Location of khettara $X = 603225.77$ (G-4-1) Y = 87225.603 (G-4-2)	
5. Number of families who 60 (G-5-2) families	9. Histry of discharge 0	
6. Number of beneficialies 70 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 12 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland 50 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit220 (E-1-1-1) 5080 (E-1-1-2)		
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary1850 (E-4-2-7)irrigation canal0 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of khettara (m) Rehabilitation length of principal (m) (m)		
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchment area 3 (I-1) Regulation pond (I-5) (2)Partial damage by desertification Gallery of conduit 2 (I-2) Irrigation canals 1 (I-7) (3)Negligible damage by desertification Open channel khettara (I-3) (I-3) (I-3)		
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal(G-19-3)Others(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)G-20-1Sanitary systemG-20-4Agriculture (storage,production, transporttion of product , etc.)G-20-1Sanitary systemG-20-5Rehabilitation of roadsG-20-2HospitalG-20-6Electric supplyG-20-3OthersG-20-7		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number E-025 (G-1)	-	2. Name of commune Sifa (G-2)	
3. Name of khettara M'Harzia (G-3)		4. Location of khettara $X = 600784.11$ (G-4-1) Y = 84822.392 (G-4-2)	
5. Number of families who G have khettara water right G		9. Histry of discharge	
6. Number of beneficialies 0 (G-	6-2) families	of khettara	
7. Cycle of kehttara water right 0 (G-	7-1) days		
8.Discharge of khettara (latest) 0 (G-	8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 			
11. Total area of farmland (IA-1)	ha	12. Irrigated area by the khettara [ha (IA-3)	
13. The condition of roads 1 appro	priate (1) ppropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
	priate (1) ppropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association G	Yes (1), 21) No (2)	If yes, Name of G-22	
18 Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 1	000 (E-1-1-1)		
	500 (E-1-1-2)		
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary	0 (E-4-2-1)) 0 (E-4-3-1) 0 (E-4-1-1)	
irrigation canal	0 (E-4-2-2)) 0 (E-4-3-2) 0 (E-4-1-2)	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification			
	ry in catchme	nt area (I-1) Regulation pond (I-5)	
(2)Partial damage by desertification Galle	ry of conduit channel khe	(I-2) Irrigation canals (I-7) (I-3)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)			
	G-19-2) Cor G-19-3)	nstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and s	ocial support) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5)			
	Rehabilitation		
23. Importance of khettara	(G-23)		
 (1) Unique source for both of potable w (2) Unique source for irrigition (3) Main source for irrigation 	()	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara			
Yes (1), No (2) If no, the reaso		(1)Constrains in landscape (3)Existence of other khettaras	
(G-24)	(G-25) ((2)Prohibited by law (4)Others	

KHET	TARA	DAT	FBASE

1. Khettara Number F-001 MP (G-1)	2. Name of commune Beni Mhamed Sijilmassa (G-2)	
3. Name of khettara Loujarchia (G-3)	4. Location of khettara $X = 602410.32$ (G-4-1) Y = 80433.883 (G-4-2)	
5. Number of families who 100 (G-5-2) familie	9. Histry of discharge 1994 dec. 15 litter/sec	
6. Number of beneficialies 300 (G-6-2) familie	2001 augt: 6 litter/sec	
7. Cycle of kehttara water right 10 (G-7-1) days	2002 juiller: 5 litter/sec	
8.Discharge of khettara (latest) 4 (G-8) lit/sec	(I-10)	
10. History of khettara water flow6(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland 70 ha (IA-1)	12. Irrigated area by the khettara [4]ha (IA-3)	
13. The condition of roads2appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 2 Yes (1) (G-21) No (2)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1 4500 (E-1-1		
Khettara as open channel 20 (E-2-1		
Principal and secondary [1000 (E-4-2 irrigation canal 0 (E-4-2		
19. RehabilitationRehabilitation length of khettara900 (m) (M-7)Rehabilitation length of principal irrigation canal200 (m) (M-8)		
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchr Gallery of condu 	uit (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal1(G-19-3)(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply(G-20-3)Others1(G-20-7)		
23. Importance of khettara 3 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24) (G-25) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

1. Khettara Number F-002 (G-1)		2. Name of commune Beni Mhamed Sijilmassa (G-2)			
3. Name of khettara Saaidar (G-3)	ia	4. Location of khettara X = <u>601589.25</u> (G-4-1) Y = <u>78734.229</u> (G-4-2)			
5. Number of families who 40 40) (G-5-2) families	9. Histry of discharge 1973 augt: 10 litter/sec			
-		of khettara 1978 augt: 3 litter/sec 1983 augt: 0 litter/sec			
	2 (G-7-1) days	1305 augu o intersec			
, ,) (G-8) lit/sec	(I-10)			
10. History of khettara water flow 2	(I-9)	(1-10)			
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased			
11. Total area of farmland (IA-	150 ha 1)	12. Irrigated area by the khettara [0]ha (IA-3)			
13. The condition of roads [1] (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)			
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)			
17. Existence of Association	(G-21) Yes (1),	If yes, Name of G-22			
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)			
Gallery of khettara (Gallery in catchment area and conduit	400 (E-1-1-1) 4000 (E-1-1-2)) <u>2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)			
Khettara as open channel	600 (E-2-1)	1.2 (E-2-2) 0.6 (E-2-3)			
Principal and secondary irrigation canal	<u>1500</u> (E-4-2-1) 0 (E-4-2-2)				
19. Rehabilitation Rehabilitation leng khettara	th of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)			
20. Influence of desertification					
(2)Partial damage by desertification (2)Partial damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	[1] (I-2) Irrigation canals [1] (I-7)			
21.Demandes of habitants (water resou	irces)	Yes (1), No (2)			
Rehabilitation of khettara 1 Installing pump Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood (G-19-4) Instruction of public wells for domestic water (G-19-5) Others (G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production,	Rehabilitation				
23. Importance of khettara (1) Unique source for both of pota (2) Unique source for irrigition (3) Main source for irrigation	(G-23) able water and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected			
24. Possibility of extension of khettara (G-24) Yes (1), No (2) If no, the		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others			

1. Khettara Number F-003 -	2. Name of commune Beni Mhamed Sijilmassa				
(G-1)	(G-2)				
3. Name of khettara Rchidia (G-3)	4. Location of khettara $X = 610112.36$ (G-4-1) Y = 77817.66 (G-4-2)				
5. Number of families who 60 (G-5-2) families	9. Histry of discharge				
6. Number of beneficialies 800 (G-6-2) families	of khettara				
7. Cycle of kehttara water right 8 (G-7-1) days					
8.Discharge of khettara (latest) (G-8) lit/sec	(I-10)				
10. History of khettara water flow (I-9)					
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased				
11. Total area of farmland [140] ha (IA-1)	12. Irrigated area by the khettara [140]ha (IA-3)				
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)				
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)				
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22)				
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)				
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1-1) 3500 (E-1-1-2)	I) 0 (E-1-4-1) 0 (E-1-5-1)				
Khettara as open channel 2500 (E-2-1)	0 (E-2-2) 0 (E-2-3)				
Principal and secondary4500 (E-4-2-2)irrigation canal0 (E-4-2-2)					
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)				
20. Influence of desertification					
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catching Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)				
21.Demandes of habitants (water resources)	Yes (1), No (2)				
Rehabilitation of khettara (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production, transporttion of pro Rehabilitatio Elect					
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation					
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others				

1. Khettara Number F-004 - (G-1)	2. Name of commune Beni Mhamed Sijilmassa (G-2)				
3. Name of khettara Jdida (G-3)	4. Location of khettara $X = 610219.83$ (G-4-1) Y = 79100.38 (G-4-2)				
5. Number of families who [100] (G-5-2) familie	9. Histry of discharge 1970 novembre: 12 litter/sec				
6. Number of beneficialies 150 (G-6-2) familie	of khettara 1980 novembre: 0 litter/sec				
7. Cycle of kehttara water right 16 (G-7-1) days					
8.Discharge of khettara (latest) 0 (G-8) lit/sec	c (I-10)				
10. History of khettara water flow 2 (I-9)					
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in(4)No water in the past five years(7)The disc	er in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased				
11. Total area of farmland 90 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)				
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)				
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)				
17. Existence of Association Yes (1 (G-21) No (2)					
18. Situation of khettara Length (m)) Section of khettara (average) hight(m) width (m)				
Gallery of khettara (Gallery in catchment area and conduit3000 (E-1-1 5000 (E-1-1	I-1) <u>2</u> (E-1-4-1) <u>1</u> (E-1-5-1)				
Khettara as open channel 4000 (E-2-1					
Principal and secondary [1800] (E-4-2 irrigation canal [0] (E-4-2					
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)				
20. Influence of desertification					
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit <u>3</u> (I-2) Irrigation canals <u>3</u> (I-7)				
21.Demandes of habitants (water resources)	Yes (1), No (2)				
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water (G-19-5) Others (G-19-6)				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
	School 1 (G-20-4) product , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) ation of roads 1 (G-20-2) Hospital 1 (G-20-6) lectric supply 1 (G-20-3) Others (G-20-7)				
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigation (3) Main source for irrigation	gation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected				
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others				

1. Khettara Number F-005 (G-1)		2. Name of commune	Beni Mhamed Sijilmassa (G-2)		
3. Name of khettara Lakdir (G-3)	na	4. Location of khettara	X = 610288.59 (G-4-1) Y = 68842.561 (G-4-2)		
5. Number of families who	80 (G-5-2) families	9. Histry of discharge	1987 decembre: 20 litter/sec		
have khettara water right 6. Number of beneficialies		of khettara 1988 juillet: 10 litter/sec			
	, , ,		1990 augt: 3 litter/sec 1993 juillet: 0 litter/sec		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)			
10. History of khettara water flow	(I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increase	harge of khettara is reduced each		
11. Total area of farmland	170 ha A-1)	12. Irrigated area by the	e khettara 0ha (IA-3)		
13. The condition of roads [(G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	hools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	v and 1 appropriate (1) (G-18) not appropriate (2)		
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)		
18. Situation of khettara	Length (m)	Sectio hight(m	on of khettara (average) n) : width (m)		
Gallery of khettara (Gallery in	1000 (E-1-1-1)) <u>2</u> (E-1-4	4-1) <u>1.5</u> (E-1-5-1)		
catchment area and conduit	1500 (E-1-1-2)) <u> </u>	4-2) <u>1</u> (E-1-5-2)		
Khettara as open channel	<u>1500</u> (E-2-1)	6 (E-2-2	2) <u>1</u> (E-2-3)		
Principal and secondary irrigation canal	1500 (E-4-2-1) 1000 (E-4-2-2)		/ i		
19. Rehabilitation Rehabilitation ler khettara	igth of (M-7)	m) Rehabilitation irrigation canal	length of principal (m) I (M-8)		
20. Influence of desertification					
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>3</u> (I-2) II	Regulation pond3(I-5)rrigation canals3(I-7)		
21.Demandes of habitants (water reso	•	Yes (1), No (2)			
Rehabilitation of khettara 1	(G-19-1)		like against flood 1 (G-19-4)		
Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	nstruction of public wells fo	or domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)					
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected					
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	 (3)Existence of other khettaras (4)Others 		

1. Khettara Number F-006 (G-1)		2. Name of commune Beni Mhamed Sijilmassa (G-2)			
3. Name of khettara El Has (G-3)	souni	4. Location of khettara X = <u>609460.09</u> (G-4-1) Y = <u>80108.573</u> (G-4-2)			
5. Number of families who 2 have khettara water right	30 (G-5-2) families	9. Histry of discharge 1996 decembre: 15 litter/sec			
	41 (G-6-2) families	of khettara 1998 juillet: 7 litter/sec 2000 juillet: 1 litter/sec			
7. Cycle of kehttara water right	15 (G-7-1) days	2001 augt: 0 litter/sec			
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)			
10. History of khettara water flow	+6 (I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased			
11. Total area of farmland	100 ha A-1)	12. Irrigated area by the khettara [0] _{ha} (IA-3)			
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)			
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)			
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22			
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)			
Gallery of khettara (Gallery in catchment area and conduit	1200 (E-1-1-1) 5000 (E-1-1-2)				
Khettara as open channel	3100 (E-2-1)	<u>6</u> (E-2-2) <u>0.6</u> (E-2-3)			
Principal and secondary irrigation canal	2100 (E-4-2-1 0 (E-4-2-2				
19. Rehabilitation Rehabilitation ler khettara	gth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)			
20. Influence of desertification					
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	3 (I-2) Irrigation canals 3 (I-7)			
21.Demandes of habitants (water res	ources)	Yes (1), No (2)			
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) Instruction of public wells for domestic water (G-19-5) Others (G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,productior	Rehabilitation				
23. Importance of khettara (1) Unique source for both of por (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected			
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others			

1. Khettara Number F-007 (G-1)		2. Name of commune	Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Belghitia (G-3)	a	4. Location of khettara	X = <u>609339.31</u> (G-4-1) Y = <u>79546.58</u> (G-4-2)
nave knettara water right) (G-5-2) families	9. Histry of discharge of khettara	1991 decembre: 10 litter/sec 1992 novembre: 0 litter/sec
	G-6-2) families	or Milettara	
	5 (G-7-1) days		
) (G-8) lit/sec	(I-10)	
10. History of khettara water flow 3	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past fiv ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland (IA-	100 ha 1)	12. Irrigated area by the	e khettara <u>O</u> ha (IA-3)
13. The condition of roads [1] (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average))
Gallery of khettara (Gallery in catchment area and conduit	<u>1000</u> (E-1-1-1) 5000 (E-1-1-2)) <u>1.5</u> (E-1-4	1-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	3000 (E-2-1)	6 (E-2-2	······
Principal and secondary irrigation canal	3000 (E-4-2-1 2000 (E-4-2-2		/ i
19. Rehabilitation Rehabilitation leng khettara	th of (M-7)	m) Rehabilitation I irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>3</u> (I-2) Ir	Regulation pond <u>3</u> (I-5) rigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resou	irces)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection de nstruction of public wells for	ike against flood 1 (G-19-4) r domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual a	and social support) Yes (1), No (2)	
Agriculture (storage,production,	transporttion of proc Rehabilitation	, duct , etc.) 1 (G-20-1)	School 1 (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara (1) Unique source for both of pota (2) Unique source for irrigition (3) Main source for irrigation	(G-23) able water and irrigation	on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara (G-24) Yes (1), No (2) If no, the		(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-008 (G-1)		2. Name of commune	Beni Mhamed Sijilmassa (G-2)		
3. Name of khettara Lakbib (G-3)	ia	4. Location of khettara	X = <u>609211.95</u> (G-4-1) Y = <u>81507.5</u> (G-4-2)		
5. Number of families who	30 (G-5-2) families	9. Histry of discharge	1970 novembre: 40 litter/sec		
have khettara water right 6. Number of beneficialies		of khettara 1975 juillet: 20 litter/sec			
	, ,		1979: 7 litter/sec 1982 juillet: 0 litter/sec		
7. Cycle of kehttara water right			,		
8.Discharge of khettara (latest)		(I-10)			
10. History of khettara water flow	()				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each		
11. Total area of farmland	600 ha A-1)	12. Irrigated area by the	e khettara <u>0</u> ha (IA-3)		
13. The condition of roads [] (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)		
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)		
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average))		
Gallery of khettara (Gallery in	2000 (E-1-1-1)) <u>2</u> (E-1-4	1-1) <u>0.5</u> (E-1-5-1)		
catchment area and conduit	5500 (E-1-1-2)) <u> </u>	1-2) 0.5 (E-1-5-2)		
Khettara as open channel	2000 (E-2-1)	4 (E-2-2	2) 0.8 (E-2-3)		
Principal and secondary irrigation canal	4 (E-4-2-1) 0 (E-4-2-2)		· · · · · · · · · · · · · · · · · · ·		
19. Rehabilitation Rehabilitation ler khettara	gth of (M-7)	m) Rehabilitation I irrigation canal	ength of principal (m) (M-8)		
20. Influence of desertification	. ,				
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>3</u> (I-2) Ir	Regulation pond <u>3</u> (I-5) rigation canals <u>3</u> (I-7)		
21.Demandes of habitants (water reso	•	Yes (1), No (2)			
Rehabilitation of khettara 1	(G-19-1)		ike against flood 1 (G-19-4)		
Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	nstruction of public wells for	r domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)					
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected					
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others		

1. Khettara Number F-009 - (G-1)	2. Name of commune Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Jablia (Gha	4. Location of khettara X = 609277.41 (G-4-1)
(G-3)	Y = 81326.47 (G-4-2)
5. Number of families who 100 (G-5-2) families	9. Histry of discharge
6. Number of beneficialies 150 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [120] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 1000 (E-1-1-1) <u>2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)
catchment area and conduit [3000] (E-1-1-2	2) <u>1.5</u> (E-1-4-2) <u>0.6</u> (E-1-5-2)
Khettara as open channel 1000 (E-2-1)	3 (E-2-2) 1 (E-2-3)
Principal and secondary 4000 (E-4-2-1	I) 0.6 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal (E-4-2-2	2) 0 (E-4-3-2) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	3 (I-2) Irrigation canals 3 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
	School (G-20-4) duct , etc.) 1 (G-20-1) Sanitary system (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number F-010 (G-1)	-	2. Name of commune	Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Bidaouia (G-3)		4. Location of khettara	X = 611794.59 (G-4-1) Y = 78326.26 (G-4-2)
5. Number of families who 78 (9. Histry of discharge	0
6. Number of beneficialies 145 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 13	(G-7-1) days		
8.Discharge of khettara (latest) 0	G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five a has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland [IA-1]	00 ha	12. Irrigated area by the	e khettara <u>O</u> ha (IA-3)
	propriate (1) t appropriate (2)	14.The condition of sch	iools 1 appropriate (1) (G-16) not appropriate (2)
	propriate (1) t appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average))
Gallery of khettara (Gallery in	1000 (E-1-1-1) 5000 (E-1-1-2)		, , , ,
Khettara as open channel	500 (E-2-1)	2 (E-2-2	
Principal and secondary irrigation canal	500 (E-4-2-1) 0 (E-4-2-2)		/ I
19. Rehabilitation Rehabilitation length khettara	of (M-7)	m) Rehabilitation irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification			
(2)Partial damage by desertification Ga	Ilery in catchme Illery of conduit ben channel khe	<u>3</u> (I-2) Ir	rigation pond <u>3</u> (I-5) rigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resourc	es)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ike against flood 1 (G-19-4) r domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual an	d social support) Yes (1), No (2)	
Agriculture (storage,production, tra	nsporttion of proc Rehabilitation	luct , etc.) 1 (G-20-1)	School 1 (G-20-4) Sanitary system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara (1) Unique source for both of potable (2) Unique source for irrigition (3) Main source for irrigation	G-23) (G-23) e water and irrigation	on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the rea (G-24)		1)Constrains in landscape 2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-011 - (G-1)	2. Name of commune Beni Mhamed Sijilmassa (G-2)				
3. Name of khettara M'barkia	4. Location of khettara X = 611822.57 (G-4-1)				
(G-3)	Y = 79130.61 (G-4-2)				
5. Number of families who have khettara water right 40 (G-5-2) families	9. Histry of discharge ⁰ of khettara				
6. Number of beneficialies 600 (G-6-2) families					
7. Cycle of kehttara water right 10 (G-7-1) days					
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)				
10. History of khettara water flow (I-9)					
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased				
11. Total area of farmland [350] ha (IA-1)	12. Irrigated area by the khettara [60]ha (IA-3)				
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools appropriate (1) (G-16) not appropriate (2)				
15.Sanitary service appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunicationappropriate (1) not appropriate (2)				
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)				
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)				
Gallery of khettara (Gallery in catchment area and conduit600 (E-1-1-2)4100 (E-1-1-2)	1) <u>0.8</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)				
Khettara as open channel 300 (E-2-1)	1 (E-2-2) 0.6 (E-2-3)				
Principal and secondary2500 (E-4-2-7)irrigation canal1000 (E-4-2-7)					
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)				
20. Influence of desertification					
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals (I-7)				
21.Demandes of habitants (water resources)	Yes (1), No (2)				
Rehabilitation of khettara (G-19-1)	Protection dike against flood (G-19-4)				
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production, transporttion of pro Rehabilitatio Elect					
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected				
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others				

1. Khettara Number F-012 (G-1)		2. Name of commune Beni Mhamed Sijilmassa (G-2)
3. Name of khettara EL Ha (G-3)	rjia (4. Location of khettara $X = 610074.26$ (G-4-1) Y = 81017.97 (G-4-2)
5. Number of families who have khettara water right	45 (G-5-2) families	9. Histry of discharge 0
	50 (G-6-2) families	of khettara
7. Cycle of kehttara water right	8 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	100 ha A-1)	12. Irrigated area by the khettara 50 ha (IA-3)
13. The condition of roads [] (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	2 Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	5000 (E-1-1-1) 3500 (E-1-1-2)) <u>1</u> (E-1-4-1) <u>0.4</u> (E-1-5-1)
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary irrigation canal	2000 (E-4-2-1 1000 (E-4-2-2	
19. Rehabilitation Rehabilitation ler khettara	gth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)
Rehabilitation of khettara Installing pump Rehabilitation of irrigation canal	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood (G-19-4) nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultua	and social support) Yes (1), No (2)
Agriculture (storage,production	, transporttion of proc Rehabilitation	School (G-20-4) Juct , etc.) (G-20-1) Sanitary system (G-20-5) n of roads (G-20-2) Hospital (G-20-6)
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation 24. Possibility of extension of khettar	(G-23) table water and irrigation	
	e reason	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number	F-013 (G-1)] [-		2. Nam	e of commun	ne Ber (G-2	ni Mhamed Sijilmassa 2)
3. Name of khettara	Chakro (G-3)	nia		4. Loca	ition of khetta	ara X= Y=	
5. Number of families who have khettara water right	10	0 (G-5-2)	families		y of discharg	e 1966	6 decembre: 30 litter/sec 3 juiller: 7 litter/sec
6. Number of beneficialies	70	0 (G-6-2)	families	of khet	tara	1970) augt: 3 litter/sec
7. Cycle of kehttara water rig	ght 1	1 (G-7-1)	days			1972	2 augt: 2 litter/sec 3 augt: 0.5 litter/sec
8.Discharge of khettara (late	est)	0 (G-8)	lit/sec		(1		augt: 0 litter/sec
10. History of khettara water	r flow 2		(I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 		(6) (6) (7)	The khettar year in the The discha	ra has wat recent fiv rge of the		discharge of	s f khettara is reduced each
11. Total area of farmland	(IA	600 ha -1)		12. Irriç	gated area by	the khett	tara <u>O</u> ha (IA-3)
13. The condition of roads	1 (G-15)	appropriate not appropr			e condition of		1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service	2 (G-17)	appropriate not appropr			cility of electri munication	city and	1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Associatio	n		Yes (1), No (2)	lf yes, Associ	Name of ation	(G-2	22)
18. Situation of khettara			ıth (m)			ection of k it(m)	hettara (average) width (m)
Gallery of khettara (Gallery catchment area and condui			(E-1-1-1) (E-1-1-2)	<i>,</i>	2 (E	-1-4-1) -1-4-2)	0.5 (E-1-5-1) 0.5 (E-1-5-2)
Khettara as open channel			(E-2-1)	, 	`	-2-2)	<u>0.8</u> (E-2-3)
Principal and secondary irrigation canal			(E-4-2-1 (E-4-2-2	· ·		-4-3-1) -4-3-2)	<u>2.5</u> (E-4-1-1) <u>0</u> (E-4-1-2)
19. Rehabilitation Rehabi khettara	litation leng a	-	(M-7)	m)	Rehabilitati irrigation ca		of principal (m) (M-8)
20. Influence of desertificat					<u> </u>		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	alion 1 ation	Gallery in Gallery of Open cha	conduit		3 (I-1) 3 (I-2) 3 (I-3)	-	ation pond <u>3</u> (I-5) on canals <u>3</u> (I-7)
21.Demandes of habitants (water resor	urces)		Yes	s (1), No (2)		
Rehabilitation of k Installing Rehabilitation of irrigation	g pump 1	(G-19- (G-19- (G-19-	-2) Cor	nstructio	Protection of public well		ainst flood 1 (G-19-4) estic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)							
Agriculture (storage	,production,		habilitatio		ls (G-20)-2)	School (G-20-4) itary system 1 (G-20-5) Hospital 1 (G-20-6) Others (G-20-7)
23. Importance of khettara (1) Unique source fo (2) Unique source fo (3) Main source for i	or irrigtion rrigation		,	(4) Partial sourc 5) Supplementa 6) Neglected		
24. Possibility of extension Yes (1), No (2) (G-24)	of khettara If no, the	reason			rains in landsc bited by law		xistence of other khettaras

1. Khettara Number F-014 (G-1)		2. Name of commune Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Rch	nidia Dar 3)	4. Location of khettara $X = 611999.55$ (G-4-1) Y = 79154.16 (G-4-2)
5. Number of families who	120 (G-5-2) families	9. Histry of discharge
have khettara water right 6. Number of beneficialies	300 (G-6-2) families	of khettara
7. Cycle of kehttara water right	12 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	
		(I-10)
10. History of khettara water flow [1] (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland	200 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)
13. The condition of roads [] (G	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 on appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1 3300 (E-1-1-2	
Khettara as open channel	700 (E-2-1)	<u>1.5</u> (E-2-2) <u>0.5</u> (E-2-3)
Principal and secondary irrigation canal	1000 (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation khettara	length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads(G-20-2)Hospital1(G-20-6)Electric supply(G-20-3)Others1(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khet Yes (1), No (2) If no, (G-24)	the reason	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others

1. Khettara Number F-015 (G-1)	-	2. Name of commune	Beni Mhamed Sijilmassa (G-2)
3. Name of khettara El Ghazia (G-3)		4. Location of khettara	X = <u>606943.84</u> (G-4-1) Y = <u>84849.845</u> (G-4-2)
5. Number of families who 400 400		9. Histry of discharge of khettara	0
6. Number of beneficialies 500	(G-6-2) families	OI KIIEllaia	
7. Cycle of kehttara water right 15	(G-7-1) days		
8.Discharge of khettara (latest) 0	(G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	In the dry season in the past five ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland (IA-1	650 ha)	12. Irrigated area by the	e khettara 0ha (IA-3)
	opropriate (1) ot appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)
	opropriate (1) ot appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average)) width (m)
Gallery of khettara (Gallery in	1000 (E-1-1-1) 5500 (E-1-1-2)) <u>1.5</u> (E-1-4	I-1) <u>0.7</u> (E-1-5-1)
Khettara as open channel	<u>1500</u> (E-2-1)	1.5 (E-2-2	2) <u>1</u> (E-2-3)
Principal and secondary	<u>3000</u> (E-4-2-1) 0 (E-4-2-2)		/ I
19. Rehabilitation Rehabilitation length khettara	of (M-7) (r	m) Rehabilitation lo irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification		-	
(1)Significant damage by desertification (2)Partial damage by desertification Ga	allery in catchme allery of conduit pen channel khet	<u>3</u> (I-2) Iri	rigation pond <u>3</u> (I-5) rigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resource	ces)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ike against flood 1 (G-19-4) r domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual ar	id social support`) Yes (1), No (2)	
Agriculture (storage,production, tra	ansporttion of prod Rehabilitatior	, duct , etc.) 1(G-20-1)	School (G-20-4) Sanitary system (G-20-5) Hospital 1 Others 1
23. Importance of khettara (1) Unique source for both of potabl (2) Unique source for irrigation (3) Main source for irrigation	(G-23) le water and irrigatio	on (4) Partial source for (5) Supplementary so (6) Neglected	ririgation
24. Possibility of extension of khettara Yes (1), No (2) If no, the rea (G-24)		(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-016 - (G-1)	2. Name of commune Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Benzirgma (G-3)	4. Location of khettara $X = 607176.49$ (G-4-1) Y = 77249.54 (G-4-2)
5. Number of families who 40 (G-5-2) families	9. Histry of discharge 0
6. Number of beneficialies 200 (G-6-2) families	of khettara
7. Cycle of kehttara water right 10 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discharge	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 300 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 2000 (E-1-1-	1) <u>1.2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)
catchment area and conduit [5000] (E-1-1-2	2) <u>5</u> (E-1-4-2) <u>0.7</u> (E-1-5-2)
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary2000 (E-4-2-2)irrigation canal0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catching Gallery of conduit Open channel khe	(I-2) Irrigation canals 3 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro Rehabilitatio Elect	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number F-017 (G-1)		2. Name of commune	Beni Mhamed Sijilmassa (G-2)
3. Name of khettara El Kas (G-3)	sria	4. Location of khettara	X = <u>607305.48</u> (G-4-1) Y = <u>80984.59</u> (G-4-2)
nave knettara water right	00 (G-5-2) families	9. Histry of discharge of khettara	0
	60 (G-6-2) families	UI KIIEllala	
7. Cycle of kehttara water right	4 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five ra has water flow, but the discha- recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland	150 ha A-1)	12. Irrigated area by the	khettara <u>O</u> ha (IA-3)
13. The condition of roads [2 (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	ools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Section hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	3500 (E-1-1-1) 3500 (E-1-1-2)) <u>1.5</u> (E-1-4	-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	0 (E-2-1)) (E-2-2) <u> </u>
Principal and secondary irrigation canal	1200 (E-4-2-1 0 (E-4-2-2	/ · · · · · · · · · · · · · · · · · · ·	· ·
19. Rehabilitation Rehabilitation len khettara	gth of (M-7)	m) Rehabilitation le irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>3</u> (I-2) Iri	egulation pond <u>3</u> (I-5) rigation canals <u>3</u> (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ke against flood 1 (G-19-4) domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual	and social support) Yes (1), No (2)	
Agriculture (storage,production	, transporttion of proc Rehabilitation	, duct , etc.) 1 (G-20-1)	School 1 (G-20-4) Sanitary system (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigition (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-018 - (G-1)]	2. Name of commune Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Mjinina (G-3)	'	4. Location of khettara $X = 611813.46$ (G-4-1) Y = 79235.24 (G-4-2)
5. Number of families who 250 (G-5-2) families who		9. Histry of discharge 0
6. Number of beneficialies 300 (G-6-2) factors	amilies	of khettara
7. Cycle of kehttara water right 10 (G-7-1)	days	
8.Discharge of khettara (latest) 0 (G-8) lit	/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	e khettara ar in the r e discharg	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [140] ha (IA-1)		12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads [1] appropriate (1) (G-15) not appropriate		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1 (G-17) not appropriate		16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) appropriate (2)
	es (1), o (2)	If yes, Name of G-22
18. Situation of khettara Length	(m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit1000 (E2000 (E	,	
Khettara as open channel 1000 (E		2 (E-2-2) 0.7 (E-2-3)
Principal and secondary 2000 (E irrigation canal 0 (E	-4-2-1) -4-2-2)	
19. Rehabilitation Rehabilitation length of khettara (M-		(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open chann	onduit	(I-2) Irrigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Con	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social s	upport)	
Agriculture (storage,production, transporttion Reha	bilitation	School (G-20-4) duct , etc.) 1 (G-20-1) Sanitary system (G-20-5) on of roads (G-20-2) Hospital 1 (G-20-6) ctric supply (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigition (3) Main source for irrigation	,	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-24)		(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number F-019 (G-1)		2. Name of commune	Beni Mhamed Sijilmassa (G-2)
3. Name of khettara Rchidi (G-3)	a Oue	4. Location of khettara	$\begin{array}{c} X = & 610213.73 \\ Y = & 76072.07 \\ \end{array} (G-4-2) \end{array}$
have khettara water right	00 (G-5-2) families	9. Histry of discharge of khettara	0
6. Number of beneficialies 3	00 (G-6-2) families	UI KIIEllala	
7. Cycle of kehttara water right	12 (G-7-1) days		
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five ra has water flow, but the discha recent five years. rge of the khettara is constant rge of the khettara is increased	years Irge of khettara is reduced each
11. Total area of farmland	300 ha A-1)	12. Irrigated area by the	khettara <u>O</u> ha (IA-3)
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of scho	DOIS 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity a telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Ves (1),	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectior hight(m)	o of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1500 (E-1-1-1 1000 (E-1-1-2) <u>2</u> (E-1-4-	·1) <u> 1</u> (E-1-5-1)
Khettara as open channel	<u>1500</u> (E-2-1)) (E-2-2)) <u> </u>
Principal and secondary irrigation canal	2000 (E-4-2-1 0 (E-4-2-2	/ · · ·	<i>,</i>
19. Rehabilitation Rehabilitation ler khettara	gth of (M-7)	m) Rehabilitation le irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification	, <i>,</i> ,	-	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>3</u> (I-2) Irr	egulation pond <u>3</u> (I-5) igation canals <u>3</u> (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Con (G-19-3)	Protection dik nstruction of public wells for	te against flood (G-19-4) domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultua	l and social support) Yes (1), No (2)	
Agriculture (storage,production	, transporttion of proc Rehabilitatio	, duct , etc.)1(G-20-1)	School (G-20-4) Sanitary system (G-20-5) Hospital (G-20-6) Others 1
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for (5) Supplementary sou (6) Neglected	irrigation
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-020 - (G-1)	2. Name of commune Sfalat (G-2)
	4. Location of khettara X = 602928.17 (G-4-1)
(G-3)	Y = 77423.358 (G-4-2)
5. Number of families who A20 (G-5-2) families	9. Histry of discharge of khettara 1997 augt: 40 litter/sec
6. Number of beneficialies 500 (G-6-2) families	of khettara 1997 augt: 40 litter/sec 1998 augt: 0 litter/sec
7. Cycle of kehttara water right 17 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow5(I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 1100 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit2500 (E-1-1-1 5000 (E-1-1-2)) <u>1.2</u> (E-1-4-1) <u>1.2</u> (E-1-5-1)
Khettara as open channel 6000 (E-2-1)	4 (E-2-2) 2 (E-2-3)
Principal and secondary6000 (E-4-2-1irrigation canal0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	(I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	School (G-20-4)
	duct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply (G-20-3) Others 1 (G-20-7)
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation 24. Possibility of extension of khettara 	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number F-021 - (G-1)	2. Name of commune Sfalat (G-2)
3. Name of khettara Jmiaa (G-3)	4. Location of khettara $X = 601232.26$ (G-4-1) Y = 73524.378 (G-4-2)
5. Number of families who 120 (G-5-2) families	9. Histry of discharge
6. Number of beneficialies 200 (G-6-2) families	of khettara
7. Cycle of kehttara water right 13 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 2000 (E-1-1-1	
catchment area and conduit [1500] (E-1-1-2	2) <u>1.5</u> (E-1-4-2) <u>0.8</u> (E-1-5-2)
Khettara as open channel [1500 (E-2-1)	1 (E-2-2) 0.8 (E-2-3)
Principal and secondary 2000 (E-4-2-1 irrigation canal 0 (E-4-2-2	
	2) 0 (E-4-3-2) 0 (E-4-1-2)
19. RehabilitationRehabilitation length of khettara(M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catching Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Cc Rehabilitation of irrigation canal 1 (G-19-3)	Onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
	School (G-20-4) duct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation 	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number F-022 - (G-1)	2. Name of commune Sfalat (G-2)
	· · · · · · · · · · · · · · · · · · ·
3. Name of khettara Gaouzia (G-3)	4. Location of khettara X = <u>602517.36</u> (G-4-1) Y = <u>66451.99</u> (G-4-2)
5. Number of families who [177] (G-5-2) familie have khettara water right	9. Histry of discharge
6. Number of beneficialies 250 (G-6-2) familie	s of khettara
7. Cycle of kehttara water right 13 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased
11. Total area of farmland 60 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit3000 (E-1-1 3500 (E-1-1	
Khettara as open channel 500 (E-2-1	
Principal and secondary1040 (E-4-2irrigation canal0 (E-4-2	
· · · · · · · · · · · · · · · · · · ·	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit [1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	ort) Yes (1), No (2)
	School (G-20-4) roduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) tion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number F-023 -	2. Name of commune Rissani (G-2)	
(G-1)		
3. Name of khettara Maktaa Sfa (G-3)	4. Location of khettara $X = 599789.95$ (G-4-1) Y = 66381.127 (G-4-2)	
5. Number of families who 40 (G-5-2) famil have khettara water right	9. Histry of discharge 1975 decembre. 12 litter/sec	
6. Number of beneficialies 60 (G-6-2) famil	ies of khettara 1980 augt: 6 litter/sec 1986 augt: 0 litter/sec	
7. Cycle of kehttara water right 10 (G-7-1) day	S	
8.Discharge of khettara (latest) 0 (G-8) lit/se	(I-10)	
10. History of khettara water flow 2 (I-9))	
(2)No water in the last two-decade(6)The kh(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ater in the dry season in the past five years lettara has water flow, but the discharge of khettara is reduced each in the recent five years. scharge of the khettara is constant scharge of the khettara is increased	
11. Total area of farmland 100 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes ((G-21) No (2		
18. Situation of khettara Length (m	n) Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit500 (E-1- 2500 (E-1-		
Khettara as open channel 1300 (E-2-		
Principal and secondary400 (E-4-irrigation canal1100 (E-4-		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catch Gallery of cond Open channel	duit 2 (I-2) Irrigation canals 1 (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood (G-19-4) Construction of public wells for domestic water (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social sup	port) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigation (3) Main source for irrigation	igation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number F-024 MP	2. Name of commune Rissani (G-2)
(G-1)	
3. Name of khettara Harounia (G-3)	4. Location of khettara X = <u>616508.39</u> (G-4-1) Y = <u>79957.67</u> (G-4-2)
5. Number of families who [120] (G-5-2) families have khettara water right	9. Histry of discharge 1985 juillet: 0 litter/sec of kbettara 1992 novembre: 6 litter/sec
6. Number of beneficialies 150 (G-6-2) families	of khettara 1992 novembre: 6 litter/sec 1997 juillet: 3 litter/sec
7. Cycle of kehttara water right 13 (G-7-1) days	2003 fevrier: 1 litter/sec 2003 juillet: 0.08 litter/sec
8.Discharge of khettara (latest) 0.5 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 100 ha (IA-1)	12. Irrigated area by the khettara 0.5 ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) (1) not appropriate (2)
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 1000 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit (E-1-1-	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 600 (E-4-2-	
irrigation canal (E-4-2-	
19. Rehabilitation Rehabilitation length of 1300	
khettara (M-7)	irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	on of roads 1 (G-20-2) Hospital 1 (G-20-6)
Ele	ctric supply 1 (G-20-3) Others 1 (G-20-7)
 23. Importance of khettara (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number F-025 - (G-1)	2. Name of commune Rissani (G-2)
	· · · ·
3. Name of khettara [bourine (G-3)	4. Location of khettara X = <u>586000.42</u> (G-4-1) Y = <u>71671.23</u> (G-4-2)
5. Number of families who40 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 75 (G-6-2) families	of khettara
7. Cycle of kehttara water right 0 (G-7-1) days	_
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit100 (E-1-1- 200 (E-1-1-	
ZooZooKhettara as open channel400(E-2-1)	· · · · · · · · · · · · · · · · · · ·
Principal and secondary0 (E-4-2-irrigation canal0 (E-4-2-	
19. Rehabilitation Rehabilitation length of	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it 2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
	construction of public wells for domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	ort) Yes (1), No (2)
Agriculture (storage,production, transporttion of pr	
	ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number F-026 - (G-1)	2. Name of commune Rissani (G-2)
3. Name of khettara Tagaroumte (G-3)	4. Location of khettara X = <u>585536.12</u> (G-4-1) Y = <u>71485.47</u> (G-4-2)
5. Number of families who <u>32</u> (G-5-2) families	9. Histry of discharge
6. Number of beneficialies 50 (G-6-2) families	of khettara
7. Cycle of kehttara water right 15 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow1(I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	In the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 50 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit350 (E-1-1-1 40 (E-1-1-2)	
Khettara as open channel 50 (E-2-1)	2 (E-2-2) 0.5 (E-2-3)
Principal and secondary450 (E-4-2-1)irrigation canal0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catching Gallery of conduit Open channel khe	1 (I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	nstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	
	n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number F-027 MP (G-1)	2. Name of commune Rissani (G-2)
(0-1)	
3. Name of khettara Agouarroum (G-3)	4. Location of khettara $X = 585689.62$ (G-4-1) Y = 71181.814 (G-4-2)
5. Number of families who [24] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 34 (G-6-2) families	of khettara
7. Cycle of kehttara water right 10 (G-7-1) days	
8.Discharge of khettara (latest) 1 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [20] ha (IA-1)	12. Irrigated area by the khettara 1ha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 2 Yes (1) (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 300 (E-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
Khettara as open channel [100 (E-2-1)	· · · · · · · · · · · · · · · · · · ·
Principal and secondary200 (E-4-2-irrigation canal0 (E-4-2-	
`	
19. RehabilitationRehabilitation length of khettara400 (M-7)	(m) Rehabilitation length of principal 200 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it <u>3</u> (I-2) Irrigation canals <u>1</u> (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	ion of roads 1 (G-20-2) Hospital 1 (G-20-6)
Ele	ectric supply 1 (G-20-3) Others 1 (G-20-7)
 23. Importance of khettara (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation 	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara <u>1</u> Yes (1), No (2) If no, the reason (2.25)	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number F-028 (G-1)		2. Name of commune Rissani (G-2)
, , , , , , , , , , , , , , , , , , ,	1	
3. Name of khettara Ouatta (G-3)	ra	4. Location of khettara $X = 594981.14$ (G-4-1) Y = 61263.17 (G-4-2)
5. Number of families who 13 have khettara water right	30 (G-5-2) families	9. Histry of discharge 1962 decembre: 15 litter/sec of khettara 1970 juillet: 10 litter/sec
6. Number of beneficialies 30	00 (G-6-2) families	of khettara 1970 juillet: 10 litter/sec 1980 novembre: 0 litter/sec
7. Cycle of kehttara water right	8 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 3	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	40 ha A-1)	12. Irrigated area by the khettara [ha (IA-3)
13. The condition of roads (G-15	appropriate (1)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1) 800 (E-1-1-2)	
Khettara as open channel	1000 (E-2-1)	1 (E-2-2) 0.5 (E-2-3)
Principal and secondary irrigation canal	1000 (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation len khettara	gth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)
Rehabilitation of khettara 1	(G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	Anstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultua	and social support	
Agriculture (storage,production	Rehabilitatio	n of roads 1 (G-20-2) Hospital (G-20-6)
	i	tric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation	(G-23) table water and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number F-029 - (G-1)	2. Name of commune Rissani (G-2)
	4. Location of khettara X = 608895.78 (G-4-1)
3. Name of khettara Aassagourte (G-3)	4. Example 1 (G-4-1) Y = 84051.64 (G-4-2)
5. Number of families who 30 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 50 (G-6-2) families	of khettara
7. Cycle of kehttara water right 8 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [15] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit400 (E-1-1- 600 (E-1-1-	
Khettara as open channel 1000 (E-2-1)	
Principal and secondary (E-4-2- irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it (I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
Agriculture (storage,production, transporttion of pr	
	ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number F-030 - (G-1)	2. Name of commune Rissani (G-2)
(G-1)	
3. Name of khettara Tassagourte (G-3)	4. Location of khettara $X = 623789.72$ (G-4-1) Y = 84906.91 (G-4-2)
5. Number of families who 22 (G-5-2) fame and the families who 22 (G-5-2) fame and the families who 22 (G-5-2) fame and the families who are the families wh	^{nilies} 9. Histry of discharge ⁰
6. Number of beneficialies 50 (G-6-2) fan	of khettara
7. Cycle of kehttara water right 10 (G-7-1) da	ays
8.Discharge of khettara (latest) 0 (G-8) lit/s	sec (I-10)
10. History of khettara water flow 1 (I-	9)
(2)No water in the last two-decade(6)The last(3)No water in the last decadeyear(4)No water in the past five years(7)The decade	vater in the dry season in the past five years chettara has water flow, but the discharge of khettara is reduced each in the recent five years. discharge of the khettara is constant discharge of the khettara is increased
11. Total area of farmland 20 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate	(2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate	(2) 16.Facility of electricity and telecomunication (G-18) appropriate (1) not appropriate (2)
17. Existence of Association Yes (G-21) No	
18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 200 (E-200) (
Khettara as open channel 800 (E-2	
Principal and secondary 500 (E-4 irrigation canal 0 (E-4	
19. Rehabilitation Rehabilitation length of	
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in cate Gallery of cor Open channe	nduit [] (I-2) Irrigation canals [] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social su	
Agriculture (storage,production, transporttion of Rehabi	litation of roads 1 (G-20-2) Hospital 1 (G-20-6)
	Electric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and i (2) Unique source for irrigtion (3) Main source for irrigation	rrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number F-031 -		2. Name of commune Rissar (G-2)	ni
(G-1)		· · · · ·	
3. Name of khettara N'AIT bork (G-3)		4. Location of khettara $X = $ Y =	623042.49 (G-4-1) 84826.769 (G-4-2)
5. Number of families who 22 (G-5-2) have khettara water right		9. Histry of discharge 0	
6. Number of beneficialies 50 (G-6-2)	families	of khettara	
7. Cycle of kehttara water right 10 (G-7-1)	days		
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)	
10. History of khettara water flow 1	(I-9)		
(2)No water in the last two-decade(6)T(3)No water in the last decadey(4)No water in the past five years(7)T	he khettara ear in the he dischar	the dry season in the past five years a has water flow, but the discharge of kh recent five years. ge of the khettara is constant ge of the khettara is increased	ettara is reduced each
11. Total area of farmland 20 ha (IA-1)		12. Irrigated area by the khettara	a <u>O</u> ha (IA-3)
13. The condition of roads 2 appropriate (G-15) not appropriate		14.The condition of schools ((appropriate (1) G-16) not appropriate (2)
15.Sanitary service 2 appropriate (G-17) not appropriate			2 appropriate (1) G-18) ^{not} appropriate (2)
	′es (1), lo (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Lengt	h (m)	Section of khe hight(m)	ttara (average) : width (m)
	E-1-1-1) E-1-1-2)		0.6 (E-1-5-1) 0.6 (E-1-5-2)
• • • • • • • • • • • • • • • • • • •	E-2-1)	0.6 (E-2-2)	0.6 (E-2-3)
	E-4-2-1) E-4-2-2)		0.4 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of	(r	n) Rehabilitation length of irrigation canal	principal (m) (M-8)
20. Influence of desertification	,		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open char	conduit	1 (I-2) Irrigation	
21.Demandes of habitants (water resources)		Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19- Installing pump 1 (G-19- Rehabilitation of irrigation canal 1 (G-19-	2) Con	Protection dike agains struction of public wells for domestion	
22.Demandes of habitants (Aglicultual and social	support)	Yes (1), No (2)	
	••••		School (G-20-4)
Agriculture (storage,production, transporttion Reh	abilitatior	uct , etc.) <u>1</u> (G-20-1) Sanitar n of roads <u>1</u> (G-20-2) ric supply <u>1</u> (G-20-3)	y system 1 (G-20-5) Hospital 1 (G-20-6) Others 1 (G-20-7)
23. Importance of khettara (G-2 (1) Unique source for both of potable water an (2) Unique source for irrigation (3) Main source for irrigation	,	on (4) Partial source for irrigation (5) Supplementary source for i (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)		1)Constrains in landscape (3)Exis 2)Prohibited by law (4)Othe	tence of other khettaras ers

1. Khettara Number F-032 (G-1)	MP	2. Name of commune Taouz (G-2)
3. Name of khettara (G-3)	st	4. Location of khettara $X = 632493.73$ (G-4-1) Y = 57862.17 (G-4-2)
5. Number of families who 120 have khettara water right	· · ·	9. Histry of discharge 1965 decembre: 15 litter/sec 1985 decembre: 6 litter/sec
6. Number of beneficialies 170	0 (G-6-2) families	of khettara 1985 decembre: 6 litter/sec 2000 december: 8 litter/sec
7. Cycle of kehttara water right	8 (G-7-1) days	
8.Discharge of khettara (latest)	6 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland (IA-		12. Irrigated area by the khettara [15]ha (IA-3)
13. The condition of roads	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	500 (E-1-1-1) 2500 (E-1-1-2)) <u>1.2</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary irrigation canal	0 (E-4-2-1) 900 (E-4-2-2)	
19. Rehabilitation Rehabilitation leng khettara	,	, ,,
20. Influence of desertification	• •	
(1)Significant damage by desertification (2)Partial damage by desertification	Gallery in catchme Gallery of conduit Open channel khet	(I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resou	irces)	Yes (1), No (2)
Rehabilitation of khettara 1	(G-19-1)	Protection dike against flood (G-19-4)
Installing pump Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual a	and social support	
Agriculture (storage,production, t	Rehabilitation	n of roads (G-20-2) Hospital (G-20-6)
		tric supply (G-20-3) Others (G-20-7)
23. Importance of khettara (1) Unique source for both of pota (2) Unique source for irrigition (3) Main source for irrigation	(G-23) able water and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 1 (G-24) 1 1 1 1 1 1 1 1 1 1 1 1 1		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number F-033 (G-1)	MP	2. Name of commune	Taouz (G-2)
3. Name of khettara Tamar (G-3)	ght	4. Location of khettara	X = 632872.88 (G-4-1) Y = 56865.91 (G-4-2)
nave knettara water right	34 (G-5-2) families	9. Histry of discharge of khettara	1986 decembre: 8 litter/sec 1989 novembre: 0 litter/sec
	5 (G-6-2) families	or kilottara	
7. Cycle of kehttara water right	0 (G-7-1) days		
8.Discharge of khettara (latest)	2 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	narge of khettara is reduced each
11. Total area of farmland	56 ha A-1)	12. Irrigated area by the	e khettara4 _{ha} (IA-3)
13. The condition of roads [2 (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average))
Gallery of khettara (Gallery in catchment area and conduit	500 (E-1-1-1) 3000 (E-1-1-2)) <u>1.5</u> (E-1-4	4-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	2000 (E-2-1)	,	
Principal and secondary irrigation canal	1000 (E-4-2-1 0 (E-4-2-2		· · · · · · · · · · · · · · · · · · ·
19. Rehabilitation Rehabilitation len khettara	gth of 800 ((M-7)	m) Rehabilitation I irrigation canal	length of principal 200 (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>1</u> (I-2) Ir	Regulation pond <u>3</u> (I-5) rigation canals <u>1</u> (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ike against flood 1 (G-19-4) r domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual	and social support) Yes (1), No (2)	
Agriculture (storage,production	Rehabilitation		School (G-20-4) Sanitary system (G-20-5) Hospital 1 Others (G-20-7)
23. Importance of khettara 2 (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-034 MF (G-1)	>	2. Name of commune	Taouz (G-2)
3. Name of khettara Tamazant (G-3)		4. Location of khettara	$X = \frac{632486.2}{9} (G-4-1)$ Y = 57033.29 (G-4-2)
5. Number of families who 32 (G-5-2)		9. Histry of discharge of khettara	1975 decembre: 10 litter/sec 1996 augt: 5 litter/sec
6. Number of beneficialies 200 (G-6-2)	Tarrines	or kilottara	1999 augt: 3 litter/sec
7. Cycle of kehttara water right [8 (G-7-1)			
8.Discharge of khettara (latest) 2.05 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 6	(I-9)		
(2)No water in the last two-decade(6(3)No water in the last decade(4)No water in the past five years(7	The khettar year in the The dischaı	n the dry season in the past fiv a has water flow, but the discl recent five years. rge of the khettara is constant rge of the khettara is increase	harge of khettara is reduced each
11. Total area of farmland 30 ha (IA-1)		12. Irrigated area by the	e khettara <u>6</u> ha (IA-3)
13. The condition of roads [1] appropriat (G-15) not appropriat		14.The condition of scl	(G-16) not appropriate (2)
15.Sanitary service 1 appropriat (G-17) not appropriat		16.Facility of electricity telecomunication	v and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association (G-21)	Yes (1), No (2)	If yes, Name of Association	(G-22)
18 Situation of khettara	gth (m)	Section hight(m	on of khettara (average) n) i width (m)
	(E-1-1-1) (E-1-1-2)) <u>1.2</u> (E-1-	4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel 0) 0 (E-2-2	
	(E-4-2-1) (E-4-2-2)	/	, i
19. Rehabilitation Rehabilitation length of khettara	700 (i M-7)	m) Rehabilitation irrigation cana	length of principal 300 (m) I (M-8)
20. Influence of desertification		<i></i>	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	catchme f conduit annel khe	(I-2) I	Regulation pond3(I-5)rrigation canals3(I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19 Installing pump (G-19 Rehabilitation of irrigation canal 1 (G-19	9-2) Cor	Protection c nstruction of public wells fo	dike against flood (G-19-4) or domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and socia	al support) Yes (1), No (2)	
Agriculture (storage,production, transport	on of proc	,	School 1 (G-20-4) Sanitary system (G-20-5) Hospital (G-20-6) Others 1 (G-20-7)
 (1) Unique source for both of potable water (2) Unique source for irrigation (3) Main source for irrigation 	23) and irrigatio	on (4) Partial source fo (5) Supplementary s (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape (2)Prohibited by law	 (3)Existence of other khettaras (4)Others

KHETTARA DATBASE			
1. Khettara Number F-035 (G-1)	MP	2. Name of commune	e Taouz (G-2)
3. Name of khettara Taboumi (G-3)	at	4. Location of khetta	ra X = <u>632122.19</u> (G-4-1) Y = <u>52092.7</u> (G-4-2)
nave knettara water right	(G-5-2) families (G-6-2) families	9. Histry of discharge of khettara	e 1968 decembre: 10 litter/sec 1980 augt: 6 litter/sec 2000 augt: 8 litter/sec
	(G-7-1) days		2000 augi. o iiilei/sec
8.Discharge of khettara (latest) 0.5	(G-8) lit/sec	(I-	-10)
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the pas a has water flow, but the d recent five years. rge of the khettara is const rge of the khettara is increa	discharge of khettara is reduced each tant
11. Total area of farmland (IA-1	5 ha	12. Irrigated area by	the khettara 2 _{ha} (IA-3)
	appropriate (1) not appropriate (2)	14.The condition of	schools 2 appropriate (1) (G-16) not appropriate (2)
	appropriate (1) not appropriate (2)	16.Facility of electric telecomunication	city and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	2 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sec hight	ction of khettara (average) t(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	800 (E-1-1-1) 1300 (E-1-1-2)		
Khettara as open channel	0 (E-2-1)	0 (E-	-2-2) 0 (E-2-3)
Principal and secondary irrigation canal	200 (E-4-2-1 200 (E-4-2-2		-4-3-1) 0.4 (E-4-1-1) -4-3-2) 0.3 (E-4-1-2)
19. Rehabilitation Rehabilitation length khettara	n of <u>460</u> ((M-7)	m) Rehabilitation irrigation ca	on length of principal 300 (m) nal (M-8)
20. Influence of desertification	- U		Regulation pond 1 (I-5)
(1) Significant damage by desertification (2) Partial damage by desertification (3) Neoligible damage by desertification	allery in catchme allery of conduit Open channel khe	1(I-2)	Irrigation canals 1 (I-7)
21.Demandes of habitants (water resour		Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection nstruction of public wells	on dike against flood (G-19-4) s for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual a	. ,) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)IG-20-1SchoolIG-20-4Rehabilitation of roads(G-20-2)HospitalI(G-20-5)Electric supply(G-20-3)OthersI(G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the re (G-24)		(1)Constrains in landsca (2)Prohibited by law	ape (3)Existence of other khettaras (4)Others

KHETTARA DATBASE		
1. Khettara Number F-036 MP (G-1)	2. Name of commune Taouz (G-2)	
3. Name of khettara Hassi Labie (G-3)	4. Location of khettara $X = 631301.37$ (G-4-1) Y = 62033.35 (G-4-2)	
5. Number of families who have khettara water right70 (G-5-2)families6. Number of beneficialies150 (G-6-2)families7. Cycle of kehttara water right12 (G-7-1)days	9. Histry of discharge 1965 decembre. 15 litter/sec	
8.Discharge of khettara (latest) 4 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (4)No water in the past five years (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased		
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara [8]ha (IA-3)	
13. The condition of roads2appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association (G-21) No (2)	, If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit1400 (E-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
Khettara as open channel 0 (E-2-1)		
Principal and secondary 900 (E-4-2 irrigation canal 0 (E-4-2		
19. RehabilitationRehabilitation length of khettara1000 (M-7)	(m) Rehabilitation length of principal 800 (m) irrigation canal (M-8)	
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchn Gallery of condu Open channel kł	it <u>1</u> (I-2) Irrigation canals <u>1</u> (I-7) nettara <u>3</u> (I-3)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood (G-19-4) Construction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
	School (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others 1 (G-20-7)	
23. Importance of khettara 2 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number F-037 (G-1)	-	2. Name of commune Taouz (G-2)
3. Name of khettara Jdida Hassi		4. Location of khettara X = <u>631453.41</u> (G-4-1)
(G-3)		Y = 61758.08 (G-4-2)
5. Number of families who G(G-	-5-2) families	9. Histry of discharge 0
6. Number of beneficialies 0 (G-	-6-2) families	of khettara
7. Cycle of kehttara water right [0] (G-	.7-1) days	
8.Discharge of khettara (latest) 0 (G-	·8) lit/sec	(I-10)
10. History of khettara water flow	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland (IA-1)	ha	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads	priate (1) ppropriate (2)	14.The condition of schools (G-16) appropriate (1) (G-16) not appropriate (2)
	priate (1) ppropriate (2)	16.Facility of electricity and telecomunication (G-18) not appropriate (2)
17. Existence of Association G	Yes (1), -21) No (2)	If yes, Name of G-22)
18 Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	0 (E-1-1-1)	
catchment area and conduit	0 (E-1-1-2)) 0 (E-1-4-2) 0 (E-1-5-2)
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary	0 (E-4-2-1) 0 (E-4-3-1) 0 (E-4-1-1)
irrigation canal	0 (E-4-2-2	
19. Rehabilitation Rehabilitation length of		m) Rehabilitation length of principal (m)
khettara	(M-7)	irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (2)Negligible damage by desertification	ry in catchme ry of conduit	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources	h channel khe	ttara (I-3) Yes (1), No (2)
Rehabilitation of khettara (G-19-1) Protection dike against flood (G-19-4)		
		nstruction of public wells for domestic water (G-19-4)
	G-19-3)	Others (G-19-6)
22.Demandes of habitants (Aglicultual and s	social support	
Agriculture (storage,production, transp		
	Rehabilitation Elect	n of roads (G-20-2) Hospital (G-20-6) tric supply (G-20-3) Others (G-20-7)
23. Importance of khettara	(G-23)	
(1) Unique source for both of potable w		on (4) Partial source for irrigation
(2) Unique source for irrigition(3) Main source for irrigation		(5) Supplementary source for irrigation(6) Neglected
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reaso		(1)Constrains in landscape (3)Existence of other khettaras
(G-24)	(G-25)	(2)Prohibited by law (4)Others

1. Khettara Number F-038 MP	2. Name of commune Taouz (G-2)	
(G-1)	、	
3. Name of khettara ElBagaa (G-3)	4. Location of khettara $X = 644149.16$ (G-4-1) Y = 40190.48 (G-4-2)	
5. Number of families who Antice Anti	9. Histry of discharge 1975 avril: 15 litter/sec of khettara 1978 augt: 7 litter/sec	
6. Number of beneficialies 44 (G-6-2) families	1995 augt: 3.84 litter/sec	
7. Cycle of kehttara water right 98 (G-7-1) days	2000 augt: 3.50 litter/sec	
8.Discharge of khettara (latest) 1.5 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discharge	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 12 ha (IA-1)	12. Irrigated area by the khettara 0.25 ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in10 (E-1-1-2catchment area and conduit3700 (E-1-1-2	I) <u>1</u> (E-1-4-1) <u>50</u> (E-1-5-1)	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary500 (E-4-2-2)irrigation canal0 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of 600 khettara (M-7)	(m) Rehabilitation length of principal 200 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	(I-2) Irrigation canals 1 (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)		
 23. Importance of khettara (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected 		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

KHET	TARA	DAT	FBASE

1. Khettara Number F-039 -	2. Name of commune Taouz	
(G-1)	(G-2)	
3. Name of khettara Mhamed Ou A (G-3)	4. Location of khettara $X = 631594.4$ (G-4-1) Y = 61116.03 (G-4-2)	
5. Number of families who 26 (G-5-2) families	9. Histry of discharge 1970 octobre: 10 litter/sec	
6. Number of beneficialies 26 (G-6-2) families	of khettara 1987 augt: 5 litter/sec 2000 augt: 0 litter/sec	
7. Cycle of kehttara water right (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2 (I-9)		
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 12 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) end appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit600 (E-1-1- 1500 (E-1-1-	1) <u>1.2</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)	
Khettara as open channel [0] (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary irrigation canal (E-4-2- 0 (E-4-2-		
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchm Gallery of condui Open channel kh	t <u>1</u> (I-2) Irrigation canals <u>1</u> (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number F-040 (G-1)	MP	2. Name of commune	M'Cissi (G-2)
· · · · · · · · · · · · · · · · · · ·	- 1. (4. Location of khettara	X = 554523.15 (G-4-1)
3. Name of khettara (G-3)	gnt		Y = 26610.17 (G-4-2)
5. Number of families who have khettara water right	0 (G-5-2) families	9. Histry of discharge	1970 decembre: 10 litter/sec
6. Number of beneficialies	50 (G-6-2) families	of khettara	1995 juin: 5 litter/sec
7. Cycle of kehttara water right	5 (G-7-1) days		
8.Discharge of khettara (latest) 2.5	55 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland	<u>20</u> ha A-1)	12. Irrigated area by the	khettara <u>5.1</u> ha (IA-3)
13. The condition of roads [] (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	iools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 1 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1250 (E-1-1-1) 1000 (E-1-1-2)) <u>1.2</u> (E-1-4	-1) <u>0.4</u> (E-1-5-1)
Khettara as open channel	(E-2-1)	0 (E-2-2	· · · · · · · · · · · · · · · · · · ·
Principal and secondary irrigation canal	500 (E-4-2-1) 0 (E-4-2-2)		,
19. Rehabilitation Rehabilitation len khettara	gth of 500 (i (M-7)	m) Rehabilitation le irrigation canal	ength of principal 50 (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>2</u> (I-2) Ir	rigation canals 3 (I-5)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara1(G-19-1)Protection dike against flood(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.) 1 (G-20-1) Sanitary system (G-20-5) Rehabilitation of roads (G-20-2) Hospital (G-20-6) Electric supply (G-20-3) Others 1 (G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number F-041 - (G-1)	2. Name of commune Sidi Ali (G-2)
	$1 4 1 \text{ solution of khatters} = \frac{1}{2} \frac{50242002}{000} 1000000000000000000000000000000000000$
3. Name of khettara Ramlia Alt (G-3)	4. Location of khettara $X = 593430.02$ (G-4-1) Y = 11411.16 (G-4-2)
5. Number of families who 72 (G-5-2) familie have khettara water right	9. Histry of discharge
6. Number of beneficialies 72 (G-6-2) familie	es of khettara 1981 augt: 3 litter/sec 1990 augt: 0 litter/sec
7. Cycle of kehttara water right 10 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	c (I-10)
10. History of khettara water flow 3 (I-9)	
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in(4)No water in the past five years(7)The disc	er in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 2 appropriate (1)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 2 Yes (1 (G-21) No (2	
18. Situation of khettara Length (m)) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 1000 (E-1-1	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [800] (E-1-1	
Khettara as open channel0 (E-2-1	· · · · · · · · · · · · · · · · · · ·
Principal and secondary 700 (E-4-2	2-1) 0.3 (E-4-3-1) 0.3 (E-4-1-1)
irrigation canal (E-4-2	
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal 700 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catch	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
Installing pump (G-19-2) Rehabilitation of irrigation canal (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	
	School 1 (G-20-4) product , etc.) 1 (G-20-1) Sanitary system (G-20-5) ation of roads 1 (G-20-2) Hospital (G-20-6) lectric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara 3 (G-23)	
 23. Importance of khettara [3] (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigation (3) Main source for irrigation 	gation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

|--|

1. Khettara Number F-042 MP	2. Name of commune Sidi Ali
(G-1)	(G-2)
3. Name of khettara Ramlia Alt (G-3)	4. Location of khettara $X = 594095.79$ (G-4-1) Y = 10850.4 (G-4-2)
5. Number of families who25 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 40 (G-6-2) families	of khettara 1995 augt: 8 litter/sec 1999 augt: 4 litter/sec
7. Cycle of kehttara water right 4 (G-7-1) days	
8.Discharge of khettara (latest) 0.96 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [70] ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)
13. The condition of roads2appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	, If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit2100 (E-1-1- 1300 (E-1-1-	1) <u>1</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel 0 (E-2-1)	
Principal and secondary 400 (E-4-2- irrigation canal 700 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it [2] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood (G-19-4) Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system (G-20-5) ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number F-043 - (G-1)	2. Name of commune Sidi Ali (G-2)
	、
3. Name of khettara Tamassinte (G-3)	4. Location of khettara $X = 546829.08$ (G-4-1) Y = -2671.54 (G-4-2)
5. Number of families who 30 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 40 (G-6-2) families	of khettara
7. Cycle of kehttara water right 7 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow1(I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in ti(4)No water in the past five years(7)The disc	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [60] ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 450 (E-1-1	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [3100 (E-1-1	
Khettara as open channel 500 (E-2-1	
Principal and secondary [1200] (E-4-2	
irrigation canal	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification Gallery of condu	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kl	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
Agriculture (storage,production, transporttion of pi	oduct , etc.) [1(G-20-1) Sanitary system [(G-20-5]
	ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23)	
(1) Unique source for both of potable water and irrig	
(2) Unique source for irrigition(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected
	· · · ·
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number F-044 - (G-1)	2. Name of commune Sidi Ali (G-2)
3. Name of khettara Tint Rajdal (G-3)	4. Location of khettara $X = 548107.52$ (G-4-1) Y = 8767.1661 (G-4-2)
5. Number of families who 30 (G-5-2) fam	9. Histry of discharge
6. Number of beneficialies 40 (G-6-2) fam	ilies of khettara
7. Cycle of kehttara water right 12 (G-7-1) day	ys
8.Discharge of khettara (latest) 0 (G-8) lit/s	ec (I-10)
10. History of khettara water flow 1 (I-S))
(2)No water in the last two-decade(6)The k(3)No water in the last decadeyear i(4)No water in the past five years(7)The d	ater in the dry season in the past five years hettara has water flow, but the discharge of khettara is reduced each in the recent five years. ischarge of the khettara is constant ischarge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (14. The condition of schools 1 appropriate (1)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (G-21) No (
18. Situation of khettara Length (r	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit2000 (E-1 2000 (E-1	
Khettara as open channel 500 (E-2	
Principal and secondary [1500] (E-4 irrigation canal [0] (E-4	
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m)
khettara (M-7)	irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	duit [1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social sup	
	itation of roads 1 (G-20-2) Hospital 1 (G-20-6)
	Electric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and ir (2) Unique source for irrigation (3) Main source for irrigation	rigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-001 MP	2. Name of commune M'Cissi (G-2)	
(G-1)		
3. Name of khettara M'Cissi (G-3)	4. Location of khettara $X = 554009.82$ (G-4-1) Y = 69727.09 (G-4-2)	
5. Number of families who [80] (G-5-2) families have khettara water right	9. Histry of discharge 2000 mai: 1.5 litter/sec	
6. Number of beneficialies 130 (G-6-2) families	of khettara 2001 mai: 1.5 litter/sec 2002 mai: 2 litter/sec	
7. Cycle of kehttara water right [3] (G-7-1) days]	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)	·	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland74 ha(IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of El Moujahidin Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1-2) 2400 (E-1-1-2)	1) <u>1.3</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary irrigation canal 0 (E-4-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-		
19. Rehabilitation Rehabilitation length of 640 khettara (M-7)	(m) Rehabilitation length of principal 920 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	(I-2) Irrigation canals 1 (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others2		
22.Demandes of habitants (Aglicultual and social support		
Agriculture (storage,production, transporttion of product , etc.)2(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital(G-20-6)Electric supply1(G-20-3)Others(G-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

KHETTARA DATBASE					
1. Khettara Number G-002 (G-1)	-	2. Name of com	mune M'((G-	Cissi	
· · · · · · · · · · · · · · · · · · ·	1	4. Location of kl		,	
3. Name of khettara Lalla Mim (G-3)	ou	4. LOCATION OF KI	Y		
5. Number of families who 29 have khettara water right	(G-5-2) families	9. Histry of discl	narge 200	0 janvier: 1.5 litter/sec	
_	(G-6-2) families	of khettara	200	1 janvier: 1.5 litter/sec 2 mai: 1.5 litter/sec	
	(G-7-1) days			2003 mai: 1.0 litter/sec	
	(G-8) lit/sec				
			(I-10)		
10. History of khettara water flow 6	(I-9)				
(1)No water from 1950s or 1970s.(2)No water in the last two-decade		n the dry season in the		rs of khettara is reduced each	
(3)No water in the last decade	year in the	recent five years.	Ũ		
(4)No water in the past five years		rge of the khettara is rge of the khettara is			
11 Total area of formland				*****	
11. Total area of farmland (IA-1	_25 ha)	12. Irrigated are	a by the kne	ttara <u>5</u> ha (IA-3)	
	ppropriate (1)	14.The conditio	n of schools		
(G-15) no	ot appropriate (2)			(G-16) not appropriate (2)	
	ppropriate (1) ot appropriate (2)	16.Facility of electromunication		2 appropriate (1) (G-18) not appropriate (2)	
17. Existence of Association	1 Yes (1),	If yes, Name of	Lall	a Mimouna	
	(G-21) No (2)	Association	(G-2	22)	
18. Situation of khettara	Length (m)		Section of I hight(m)	khettara (average) width (m)	
Gallery of khettara (Gallery in	1000 (E-1-1-1)		6 (E-1-4-1)	0.6 (E-1-5-1)	
catchment area and conduit	1000 (E-1-1-2)) 1	(E-1-4-2)	0.6 (E-1-5-2)	
Khettara as open channel	0 (E-2-1)) (E-2-2)	0 (E-2-3)	
Principal and secondary	1746 (E-4-2-1) 0.4	(E-4-3-1)	0.4 (E-4-1-1)	
irrigation canal	0 (E-4-2-2) 0	(E-4-3-2)	0 (E-4-1-2)	
19. Rehabilitation Rehabilitation length	of 845 (m) Rehabi	litation lengt	h of principal 815 (m)	
khettara	(M-7)		on canal	(M-8)	
20. Influence of desertification				ation pond 2 (I-5)	
(1) Significant damage by desertification	allery in catchme		, .		
(3) Negligible damage by desertification	allery of conduit ben channel khe		I-2) Irrigati I-3)	ion canals 1 (I-7)	
21.Demandes of habitants (water resource		Yes (1), No (2	,		
Rehabilitation of khettara 1	(G-19-1)		, tection dike ag	gainst flood 1 (G-19-4)	
Installing pump	(G-19-2) Cor	nstruction of public		estic water 1 (G-19-5)	
Rehabilitation of irrigation canal 1	(G-19-3)			Others (G-19-6)	
22.Demandes of habitants (Aglicultual ar	d social support) Yes (1), No (2	2)	School 1 (G-20-4	
Agriculture (storage,production, tra	Insporttion of proc Rehabilitation		G-20-1) Sar	nitary system 1 (G-20-5)	
			G-20-2) G-20-3)	Hospital <u>1</u> (G-20-6) Others <u>2</u> (G-20-7)	
23. Importance of khettara	(G-23)				
(1) Unique source for both of potable water and irrigation (4) Partial source for irrigation					
(2) Unique source for irrigiton (3) Main source for irrigation		(5) Supplem (6) Neglecte	entary source	tor irrigation	
24. Possibility of extension of khettara					
1 Yes (1), No (2) If no, the real	ason	(1)Constrains in la	ndscape (3)	Existence of other khettaras	
(G-24)		(2)Prohibited by la		Others	

1. Khettara Number G-003 MP (G-1)	2. Name of commune M'Cissi (G-2)
3. Name of khettara Bouadil (G-3)	4. Location of khettara X = <u>554484.99</u> (G-4-1) Y = <u>81567.99</u> (G-4-2)
5. Number of families who54 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 42 (G-6-2) families	of khettara
7. Cycle of kehttara water right 7 (G-7-1) days	
8.Discharge of khettara (latest) 5 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	·
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [45] ha (IA-1)	12. Irrigated area by the khettara 5ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit60 (E-1-1- 1060 (E-1-1-	
Khettara as open channel 420 (E-2-1)	0.7 (E-2-2) 0.6 (E-2-3)
Principal and secondary2560 (E-4-2-irrigation canal0 (E-4-2-	
19. Rehabilitation Rehabilitation length of 280 khettara (M-7)	(m) Rehabilitation length of principal 1780 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t 2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
	School 2 (G-20-4)
	Deduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number G-004 MP	2. Name of commune M'Cissi (G-2)
(G-1)	
3. Name of khettara Azag (G-3)	4. Location of khettara X = <u>552260.29</u> (G-4-1) Y = <u>71643.09</u> (G-4-2)
5. Number of families who A1 (G-5-2) families	9. Histry of discharge 2000: 2.00 litter/sec
6. Number of beneficialies 41 (G-6-2) families	of khettara 2001: 1.00 litter/sec 2002: 1.50 litter/sec
7. Cycle of kehttara water right 7 (G-7-1) days	2003 juillet: 1.50 litter/sec
8.Discharge of khettara (latest) 1 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 63 ha (IA-1)	12. Irrigated area by the khettara [3]ha (IA-3)
13. The condition of roads (G-15) (G-15) (14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Tanouni Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 600 (E-1-1-	
catchment area and conduit [2300] (E-1-1-	2) 0.8 (E-1-4-2) 0.6 (E-1-5-2)
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary [1880] (E-4-2- irrigation canal [0] (E-4-2-	
	· · · · · · · · · · · · · · · · · · ·
19. RehabilitationRehabilitation length of khettara100 (M-7)	(m) Rehabilitation length of principal 1500 (m) irrigation canal (M-8)
20. Influence of desertification	(1.4) Description pond 2 (1.5)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchm Gallery of condui Open channel kh	t 2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 2 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) octric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara 1 (G-23)	
 (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-005 -		2. Name of commune M'Cissi (G-2)		
(G-1)				
3. Name of khettara Tazoulaite (G-3)		4. Location of khettara X = <u>552645.53</u> (G-4-1) Y = <u>77371.76</u> (G-4-2)		
5. Number of families who 40 (G-5-2)	families	9. Histry of discharge		
6. Number of beneficialies 50 (G-6-2	families	of khettara		
7. Cycle of kehttara water right [18] (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)		
10. History of khettara water flow 5 (I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 				
11. Total area of farmland 50 ha (IA-1)		12. Irrigated area by the khettara Oha (IA-3)		
13. The condition of roads 2 appropriat (G-15) not appropriat		14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriat (G-17) not appropriat		16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association (G-21)	Yes (1), No (2)	If yes, Name of G-22		
18. Situation of khettara Len	gth (m)	Section of khettara (average) hight(m) width (m)		
	(E-1-1-1) (E-1-1-2)			
•	(E-2-1)	0 (E-2-2) 0 (E-2-3)		
	(E-4-2-1) (E-4-2-2)			
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)		
20. Influence of desertification				
20. Initial control of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Gallery of conduit Open channel khettara				
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara1(G-19-1)Protection dike against flood(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
School 1 (G-20-4)				
Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads 1(G-20-2)Hospital 1(G-20-6)Electric supply 1(G-20-3)Others 1(G-20-7)				
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected				
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (C		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others		

1. Khettara Number G-006 -		2. Name of commune M'Cissi (G-2)		
(G-1)		、		
3. Name of khettara Boudib Kdim (G-3)		4. Location of khettara $X = 549859.49$ (G-4-1) Y = 52580 (G-4-2)		
5. Number of families who 81 (G-5-2)		9. Histry of discharge 0		
6. Number of beneficialies 96 (G-6-2)	families	of khettara		
7. Cycle of kehttara water right 8 (G-7-1)	days			
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)		
10. History of khettara water flow 3 (I-9)				
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased				
11. Total area of farmland [119] ha (IA-1)		12. Irrigated area by the khettara Oha (IA-3)		
13. The condition of roads 2 appropriate (G-15) not appropriate		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (G-17) not appropriate		16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
	Yes (1), No (2)	If yes, Name of G-22)		
18. Situation of khettara Lengt	th (m)	Section of khettara (average) hight(m) width (m)		
	E-1-1-1) E-1-1-2)			
	E-2-1)	0 (E-2-2) 0 (E-2-3)		
	(E-4-2-1) (E-4-2-2)			
	,			
19. RehabilitationRehabilitation length of khettara(m) (M-7)Rehabilitation length of principal irrigation canal(m) (M-8)				
20. Influence of desertification				
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchment area2(I-1)Regulation pond(I-5)Gallery of conduit Open channel khettara3(I-2)Irrigation canals3(I-7)				
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4)				
Installing pump 1 (G-19-2) Construction of public wells for domestic water (G-19-5) Rehabilitation of irrigation canal 1 (G-19-3) Others (G-19-6)				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
Agriculture (storage,production, transporttion of product , etc.) G-20-1 Sanitary system 1 G-20-5 Rehabilitation of roads 1 G-20-2 Hospital G-20-6 Electric supply 1 G-20-3 Others G-20-7				
Electric supply 1 (G-20-3) Others (G-20-7)				
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected				
24. Possibility of extension of khettara				
Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

1. Khettara Number G-007 - (G-1)	2. Name of commune M'Cissi (G-2)
	4. Location of khettara X = 548964.51 (G-4-1)
3. Name of khettara Boudib Jdid (G-3)	4. Location of knettara $X = 548964.51 (G-4-1)$ Y = 51746.83 (G-4-2)
5. Number of families who 59 (G-5-2) families	9. Histry of discharge 1985: tarie
6. Number of beneficialies 85 (G-6-2) families	of khettara
7. Cycle of kehttara water right 8 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 100 (E-1-1-	1) 1.2 (E-1-4-1) 1 (E-1-5-1)
catchment area and conduit [1000 (E-1-1-2	
Khettara as open channel 2500 (E-2-1)	0.4 (E-2-2) 0.5 (E-2-3)
Principal and secondary 35 (E-4-2-	1) 0.4 (E-4-3-1) 0.5 (E-4-1-1)
irrigation canal (E-4-2-	2) 0 (E-4-3-2) 0 (E-4-1-2)
	(m) Rehabilitation length of principal (m)
	irrigation canal (M-8)
20. Influence of desertification (1) Significant demons by departification Gallery in catchm	ent area (I-1) Regulation pond (I-5)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	t (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	ettara 2 (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump [1 (G-19-2) Co	onstruction of public wells for domestic water (G-19-4)
Rehabilitation of irrigation canal 1 (G-19-3)	Others (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
Agriculture (storage,production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5)
Rehabilitati	on of roads 1 (G-20-2) Hospital (G-20-6) ctric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23)	
(1) Unique source for both of potable water and irriga	tion (4) Partial source for irrigation
(2) Unique source for irrigiton(3) Main source for irrigation	(5) Supplementary source for irrigation(6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

		_
1. Khettara Number G-008 - (G-1)		2. Name of commune M'Cissi (G-2)
3. Name of khettara AitOumwacef (G-3)		4. Location of khettara $X = 547753.73$ (G-4-1) Y = 39827.19 (G-4-2)
5. Number of families who [100] (G-5-2)	families	9. Histry of discharge
6. Number of beneficialies 130 (G-6-2)		of khettara
7. Cycle of kehttara water right 10 (G-7-1)	days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
(2)No water in the last two-decade(6)(3)No water in the last decade(4)No water in the past five years(7)	The khettar year in the The dischar	in the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [100 ha (IA-1)		12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (G-15) not appropriate		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (G-17) not appropri		16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
	Yes (1), No (2)	If yes, Name of Association (G-22)
18 Situation of khettara	gth (m)	Section of khettara (average) hight(m) width (m)
	(E-1-1-1)	
	(E-1-1-2) (E-2-1)	
·		0 (E-2-2) 0 (E-2-3)
	(E-4-2-1) (E-4-2-2)	
19. Rehabilitation Rehabilitation length of [khettara (I	(I M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in Gallery of Open cha	conduit	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Rehabilitation of khettara 1 (G-19 Installing pump 1 (G-19 Rehabilitation of irrigation canal 1 (G-19	-2) Cor	Protection dike against flood 1 (G-19-4) Instruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and socia	l support	t) Yes (1), No (2)
Agriculture (storage,production, transporttio	on of prod habilitatior	School (G-20-4) duct , etc.) (G-20-1) Sanitary system (G-20-5) on of roads 1 (G-20-2) Hospital (G-20-6)
23. Importance of khettara (G-2 (1) Unique source for both of potable water a (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khettara	23)	
Yes (1), No (2) If no, the reason		(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

		_
1. Khettara Number G-009 - (G-1)		2. Name of commune M'Cissi (G-2)
3. Name of khettara Aitlchou (G-3)		4. Location of khettara $X = 547583.25$ (G-4-1) Y = 41052.6 (G-4-2)
5. Number of families who [8-5] have khettara water right [G-5]	-2) families	Y = 41052.6 (G-4-2) 9. Histry of discharge 0
6. Number of beneficialies 92 (G-6	-2) families	of khettara
7. Cycle of kehttara water right 8 (G-7	,	
8.Discharge of khettara (latest) 0 (G-8	,	(I-10)
10. History of khettara water flow 1	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [80] (IA-1)	ha	12. Irrigated area by the khettara []ha (IA-3)
13. The condition of roads 2 appropriate (G-15)	riate (1) ropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (G-17)	riate (1) ropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-2	Yes (1), 1) No (2)	If yes, Name of G-22)
18 Situation of khettara	ength (m)	Section of khettara (average) hight(m) width (m)
	00 (E-1-1-1) 00 (E-1-1-2)	
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 210 irrigation canal	00 (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	()	
(1)Significant damage by desertification (2)Partial damage by desertification (2)Nagligible damage by desertification (3)Nagligible damage by desertification	/ in catchme / of conduit channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Installing pump 1 (G	-19-1) -19-2) Cor -19-3)	Protection dike against flood 1 (G-19-4) Instruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and so	cial support) Yes (1), No (2)
Agriculture (storage,production, transpo	Rehabilitatio	
 (1) Unique source for both of potable wat (2) Unique source for irrigition (3) Main source for irrigation 	G-23) ter and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-010 -		2. Name of commune M'Cissi (G-2)
(G-1)		
3. Name of khettara Tamarna (G-3)		4. Location of khettara $X = 583889.35$ (G-4-1) Y = 72762.21 (G-4-2)
5. Number of families who 88 (G-5-:	,	9. Histry of discharge 0
6. Number of beneficialies 88 (G-6-2	2) families	of khettara
7. Cycle of kehttara water right 12 (G-7-	1) days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
 (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	6)The khettar year in the 7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant ge of the khettara is increased
11. Total area of farmland [80] h (IA-1)	а	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropria	ate (1) opriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropria (G-17) not appro	ate (1) opriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21	Yes (1),) No (2)	If yes, Name of G-22
18. Situation of khettara Le	ngth (m)	Section of khettara (average) hight(m) width (m)
	0 (E-1-1-1) 0 (E-1-1-2)	
	0 (E-2-1)	0.5 (E-2-2) 0.4 (E-2-3)
	0 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	()	(····guiner entre
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	in catchme of conduit nannel khet	(I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Installing pump 1 (G-	19-1) 19-2) Cor 19-3)	Protection dike against flood (G-19-4) astruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and soc	ial support	Yes (1), No (2)
Agriculture (storage,production, transpor		School (G-20-4)
	Rehabilitation	
 (1) Unique source for both of potable wate (2) Unique source for irrigition (3) Main source for irrigation 	6-23) er and irrigation	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)		1)Constrains in landscape (3)Existence of other khettaras 2)Prohibited by law (4)Others

1. Khettara Number G-011 -		2. Name of commune M'Cissi (G-2)
(G-1)		· · · ·
3. Name of khettara (G-3)		4. Location of khettara $X = 554523.13$ (G-4-1) Y = 26613.25 (G-4-2)
5. Number of families who 42 (G-5-2	2) families	9. Histry of discharge 0
6. Number of beneficialies 90 (G-6-2	2) families	of khettara
7. Cycle of kehttara water right 9 (G-7-	1) days	
8.Discharge of khettara (latest) 0 (G-8)	lit/sec	(I-10)
10. History of khettara water flow 2	(I-9)	
(2)No water in the last two-decade ((3)No water in the last decade (4)No water in the past five years (6)The khettar year in the 7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [54] have (IA-1)	a	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropria (G-15) not appro	ate (1) opriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropria (G-17) not appro	ate (1) opriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21	Yes (1),) No (2)	If yes, Name of G-22)
18. Situation of khettara	ngth (m)	Section of khettara (average) hight(m) width (m)
) (E-1-1-1)) (E-1-1-2)	
) (E-2-1)	0 (E-2-2) 0 (E-2-3)
	0 (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	()	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	n catchme of conduit nannel khe	1 (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)		Yes (1), No (2)
Installing pump 1 (G-	19-1) 19-2) Cor 19-3)	Protection dike against flood (G-19-4) nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and soc	ial sunnort) Yes (1), No (2)
		School (G-20-4)
Agriculture (storage,production, transport	Rehabilitatio	duct , etc.) (G-20-1) Sanitary system (G-20-5) n of roads 1 (G-20-2) Hospital (G-20-6) tric supply 1 (G-20-3) Others 1 (G-20-7)
 (1) Unique source for both of potable wate (2) Unique source for irrigtion (3) Main source for irrigation 	6-23) r and irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-012 - (G-1)	2. Name of commune Alnif (G-2)
	4. Location of khettara X = 551070.75 (G-4-1)
3. Name of khettara (G-3)	$Y = \frac{56350.82}{(G-4-2)}$
5. Number of families who 40 (G-5-2) families	9. Histry of discharge 1960: taris
6. Number of beneficialies 50 (G-6-2) families	of khettara
7. Cycle of kehttara water right 18 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 20 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 0 (E-1-1-1) 0 (E-1-4-1) 0 (E-1-5-1)
catchment area and conduit (E-1-1-2	
Khettara as open channel2300(E-2-1)	2 (E-2-2) 1 (E-2-3)
Principal and secondary 850 (E-4-2-1	I) 0.3 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	(I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump (G-19-2) Cc Rehabilitation of irrigation canal (G-19-3)	Onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
	School 1 (G-20-4) duct , etc.) (G-20-1) Sanitary system (G-20-5) on of roads 1 (G-20-2) Hospital (G-20-6) ctric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

KHETTA	RA DATBASE
1. Khettara Number G-013 MP	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Taghroute (G-3)	4. Location of khettara $X = 549672.51$ (G-4-1) Y = 70899.74 (G-4-2)
5. Number of families who 34 (G-5-2) families have khettara water right	9. Histry of discharge 2000 octoble. 2.0 litter/sec
6. Number of beneficialies 38 (G-6-2) famil	2002 Octobre: 1.50 litter/sec
7. Cycle of kehttara water right (G-7-1) day	/s 2003 juillet: 1.0 litter/sec
8.Discharge of khettara (latest) 1.09 (G-8) lit/se	ec (I-10)
10. History of khettara water flow 6 (I-9)
(2)No water in the last two-decade(6)The kt(3)No water in the last decadeyear in(4)No water in the past five years(7)The di	ater in the dry season in the past five years nettara has water flow, but the discharge of khettara is reduced each n the recent five years. ischarge of the khettara is constant ischarge of the khettara is increased
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara [2]ha (IA-3)
13. The condition of roads1appropriate (1)(G-15)not appropriate (2)	(G=10) ····································
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	2) 16.Facility of electricity and telecomunication (G-18) appropriate (1) (G-18)
17. Existence of Association 1 Yes ((G-21) No (2)	
18. Situation of khettara Length (n	
Gallery of khettara (Gallery in catchment area and conduit300 (E-1- 800 (E-1-	
Khettara as open channel [152] (E-2-	
Principal and secondary400 (E-4-irrigation canal0 (E-4-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	0 (m) Rehabilitation length of principal 1700 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catcl Gallery of cond Open channel	duit [2] (I-2) Irrigation canals [2] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 1 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social sup	
Agriculture (storage,production, transporttion of	School 2 (G-20-4)
Rehabili	product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) tation of roads 1 (G-20-2) Hospital 1 (G-20-6) Electric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigition (3) Main source for irrigation	rigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

KHETTARA DATBASE				
1. Khettara Number G-014 (G-1)	MP	2. Name of commune	Alnif (G-2)	
3. Name of khettara Agou (G-3)	imad	4. Location of khettara	X = <u>549511.91</u> (G-4-1) Y = 70723.35 (G-4-2)	
5. Number of families who have khettara water right 6. Number of beneficialies	20 (G-5-2) families 20 (G-6-2) families	9. Histry of discharge of khettara	2000: 1.5 litter/sec 2001 juillet: 0 litter/sec 2002 juillet: 2 litter/sec	
7. Cycle of kehttara water right	7 (G-7-1) days		2002 juniel. 2 iller/sec	
	0.71 (G-8) lit/sec	(I-10)		
10. History of khettara water flow	6 (I-9)			
(1)No water from 1950s or 1970s.(2)No water in the last two-decade(3)No water in the last decade(4)No water in the past five years	(6)The khetta year in the (7)The disch	in the dry season in the past five ara has water flow, but the disch e recent five years. arge of the khettara is constant arge of the khettara is increased	arge of khettara is reduced each	
11. Total area of farmland	<u>20</u> ha (IA-1)	12. Irrigated area by the	khettara <u>2</u> ha (IA-3)	
13. The condition of roads (G-1	appropriate (1) not appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)	
15.Sanitary service 2 (G-1	appropriate (1) 7) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)	
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Lkhadra (G-22)	
18. Situation of khettara	Length (m)	hight(m)	n of khettara (average))	
Gallery of khettara (Gallery in catchment area and conduit	120 (E-1-1- 570 (E-1-1-2			
Khettara as open channel	0 (E-2-1)	0 (E-2-2		
Principal and secondary irrigation canal	700 (E-4-2- 300 (E-4-2-2			
19. Rehabilitation Rehabilitation le khettara	ength of 50 (M-7)	(m) Rehabilitation lirrigation canal	ength of principal 550 (m) (M-8)	
20. Influence of desertification		ant area [2] (11) R	egulation pond 2 (I-5)	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchm Gallery of conduit Open channel kh	t <u>2</u> (I-2) Ir ettara <u>2</u> (I-3)	rigation canals 2 (I-7)	
21.Demandes of habitants (water res		Yes (1), No (2)		
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Co	Protection di onstruction of public wells for	ike against flood 1 (G-19-4) domestic water 1 (G-19-5) Others 2 (G-19-6)	
22.Demandes of habitants (Aglicultu		rt) Yes (1), No (2)		
Agriculture (storage,productio	Rehabilitati	oduct , etc.) 2 (G-20-1) on of roads 1 (G-20-2) ctric supply 1 (G-20-3)	School 2 (G-20-4 Sanitary system 1 (G-20-5 Hospital 1 (G-20-6 Others 1 (G-20-7	
23. Importance of khettara (1) Unique source for both of p (2) Unique source for irrigition (3) Main source for irrigation	(G-23) potable water and irriga	tion (4) Partial source for (5) Supplementary sc (6) Neglected	ririgation burce for irrigation	
24. Possibility of extension of khetta 1 Yes (1), No (2) If no, the (G-24)	ara he reason (G-25)	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others	

1. Khettara Number G-015 MP	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Alnif (G-3)	4. Location of khettara $X = 521311.22$ (G-4-1) Y = 59203.22 (G-4-2)
5. Number of families who	9. Histry of discharge 2000 octobre: 1.5 litter/sec
6. Number of beneficialies 350 (G-6-2) families	of khettara 2001 octobre: 1.5 litter/sec 2002 octobre: 1 litter/sec
7. Cycle of kehttara water right 18 (G-7-1) days	2003 fevrier: 1 litter/sec
8.Discharge of khettara (latest) 2.6 (G-8) lit/sec	(I-10)
10. History of khettara water flow 5 (I-9)	·
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [160] ha (IA-1)	12. Irrigated area by the khettara 2ha (IA-3)
13. The condition of roads (G-15) (G-15) (1) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Tangarfa Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 2800 (E-1-1-	
catchment area and conduit (E-1-1-2	
Khettara as open channel 4600 (E-2-1)	0.8 (E-2-2) 0.6 (E-2-3)
Principal and secondary 0.6 (E-4-2-	1) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal (E-4-2-2	
19. RehabilitationRehabilitation length of khettara4000 (M-7)	(m) Rehabilitation length of principal 2975 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area 3 (I-1) Regulation pond 3 (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 2 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	School <u>2</u> (G-20-4) oduct , etc.) (G-20-1) Sanitary system <u>1</u> (G-20-5)
Rehabilitatio	Con of roads (G-20-2) Hospital (G-20-6) ctric supply (G-20-3) Others (G-20-7)
23. Importance of khettara 1 (G-23)	
 (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
	··· -
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number G-016 (G-1)] 🖂	2. Name of commune Alnif (G-2)
3. Name of khettara Imzilene (G-3)	<u>;</u>	4. Location of khettara $X = 521447.32$ (G-4-1) Y = 57536.87 (G-4-2)
5. Number of families who	1 (G-5-2) families	9. Histry of discharge 1999 septembre: 1 litter/sec
have khettara water right 6. Number of beneficialies		of khettara 2000: 0 litter/sec
	· · · ·	2001: 0 litter/sec 2002 octobre: 2 litter/sec
		2003: 0 litter/sec
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [IA (IA	ha -1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads [1] (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1appropriate (1) ont appropriate (2)
17. Existence of Association	(G-21) Yes (1), (2)	If yes, Name of Association (G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	900 (E-1-1-1)	1.5 (E-1-4-1) 0.6 (E-1-5-1)
catchment area and conduit	1100 (E-1-1-2)	(E-1-4-2) <u>0.6</u> (E-1-5-2)
Khettara as open channel	215 (E-2-1)	0.6 (E-2-2) 0.5 (E-2-3)
Principal and secondary	3000 (E-4-2-1)) 0.8 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal	0 (E-4-2-2)) (E-4-3-2) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation leng khettara	th of (۱ (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1) Significant damage by desertification	Gallery in catchme	
(2) Nogligible domage by desortification	Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7) (I-7)
21.Demandes of habitants (water reso	urces)	Yes (1), No (2)
Rehabilitation of khettara 1	(G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual	and social support) Yes (1), No (2)
Agriculture (storage,production,	transporttion of proc	School 1 (G-20-4 luct , etc.) (G-20-1) Sanitary system 1 (G-20-5
gc	Rehabilitation	
23. Importance of khettara	(G-23)	
 (1) Unique source for both of pot (2) Unique source for irrigition (3) Main source for irrigation 	· · · ·	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-017 (G-1)		2. Name of commune Alnif (G-2)	
3. Name of khettara Ait La	hbib	4. Location of khettara $X = 519889.18$ (0 Y = 59936.55 (0	,
5. Number of families who	00 (G-5-2) families 00 (G-6-2) families	9. Histry of discharge of khettara 1995: 0 litter/sec 1996: 1.5 litter/sec	
	, ,	1997 juillet: 1 litter/sec	
7. Cycle of kehttara water right	(0 : :)		
		(I-10)	
10. History of khettara water flow	· · · · ·		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced recent five years. rge of the khettara is constant rge of the khettara is increased	each
11. Total area of farmland	80 ha A-1)	12. Irrigated area by the khettara [0.0 (IA-3)	12 ha
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (G-16) not appropriate	
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriat (G-18)appropriat appropriat	
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara	Length (m)	Section of khettara (average hight(m) width (
Gallery of khettara (Gallery in catchment area and conduit	200 (E-1-1-1 2650 (E-1-1-2		,
Khettara as open channel	200 (E-2-1)	0.8 (E-2-2) 0.6 (E-2	
Principal and secondary irrigation canal	400 (E-4-2-1 700 (E-4-2-2		
19. Rehabilitation Rehabilitation ler khettara	ngth of 300 ((M-7)		400 (m) ∕I-8)
20. Influence of desertification			–
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 2	(I-5) (I-7)
21.Demandes of habitants (water res	ources)	Yes (1), No (2)	
Rehabilitation of khettara 2 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Con (G-19-3)	Protection dike against flood 1 nstruction of public wells for domestic water 1 Others 1	(G-19-4) (G-19-5) (G-19-6)
22.Demandes of habitants (Aglicultua	I and social support		
Agriculture (storage,production	Rehabilitatio		(G-20-4) (G-20-5) (G-20-6) (G-20-7)
23. Importance of khettara 1 (1) Unique source for both of p (2) Unique source for irrigtion (3) Main source for irrigation	(G-23) otable water and irrigati	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettar 1 Yes (1), No (2) If no, th (G-24)	e reason	(1)Constrains in landscape (3)Existence of other kl (2)Prohibited by law (4)Others	hettaras

KHE	TTARA	N DA	ΓBASE			
1. Khettara Number G-018 (G-1)	MP	2. Name	e of commune	Alnif (G-2)		
3. Name of khettara (G-3)		4. Locat	ion of khettara	X = Y =	518354.29 (G- 61624.87 (G-	
5. Number of families who have khettara water right108 (G-4)6. Number of beneficialies120 (G-4)7. Cycle of kehttara water right10 (G-7)	6-2) families	9. Histry of khetta	r of discharge ara	2000 oc 2001 oc 2002 oc	tobre: 1 litter/sec tobre: 1.5 litter/se tobre: 1.5 litter/se tobre: 1 litter/sec	ec ec
8.Discharge of khettara (latest) 2.7 (G-8	3) lit/sec		(I-10)	2002: ta	ine	
10. History of khettara water flow4(1)No water from 1950s or 1970s.(2)No water in the last two-decade(3)No water in the last decade(4)No water in the past five years	(6)The khettar year in the (7)The dischar	a has wate recent five rge of the k	eason in the past five r flow, but the disch years. chettara is constant chettara is increased	arge of khe	ettara is reduced ea	ıch
11. Total area of farmland [70 (IA-1)	ha	12. Irriga	ated area by the	khettara	a <u>0.5</u> (IA-3)	ha
	priate (1) propriate (2)	14.The	condition of sch		appropriate (6-16) not appropria	
	priate (1) propriate (2)		lity of electricity nunication		appropriate 3-18) not appropri	
17. Existence of Association [] (G-2	Yes (1), 21) No (2)	lf yes, N Associa		(G-22)		
	ength (m)		Sectio hight(m)		ttara (average) width (n	ו)
catchment area and conduit	000 (E-1-1-1) 000 (E-1-1-2)		<u>1.2</u> (E-1-4 <u>1.2</u> (E-1-4	,	0.6 (E-1-4 0.2 (E-1-4	,
Principal and secondary	00 (E-2-1) 00 (E-4-2-1) 00 (E-4-2-2		0.6 (E-2-2 0.8 (E-4-3 0.4 (E-4-3	3-1)	0.4 (E-2-3 0.5 (E-4- 0.4 (E-4-	-1-1)
19. Rehabilitation Rehabilitation length of khettara	2700 (M-7)	m)	Rehabilitation le		principal [8]	30 (m) 8)
(1) Significant damage by desertification (2) Partial damage by desertification (3) Negligible damage by desertification	y in catchme y of conduit channel khe			egulation		(I-5) (I-7)
Installing pump 2	G-19-1)		(1), No (2) Protection di of public wells for	domestic	c water 1	G-19-4) G-19-5) G-19-6)
22.Demandes of habitants (Aglicultual and so Agriculture (storage,production, transp	orttion of proc Rehabilitation	′ luct , etc.)	(G-20-2)		School 1 y system 1 Hospital 1 Others 1	(G-20-4) (G-20-5) (G-20-6) (G-20-7)
23. Importance of khettara 1 (1) Unique source for both of potable wa (2) Unique source for irrigtion (3) Main source for irrigation	(G-23) ater and irrigation	(5) Partial source for) Supplementary sc) Neglected	irrigation burce for in	rrigation	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24)			ains in landscape ted by law	(3)Exist (4)Othe	tence of other khe	ettaras

1. Khettara Number G-019 -	2. Name of commune Alnif (G-2)	
(G-1)		
3. Name of khettara Tizi Lajiar (G-3)	4. Location of khettara $X = 518214.34$ (G-4-1) Y = 62810.65 (G-4-2)	
5. Number of families who 6 (G-5-2) families	9. Histry of discharge 1999: 0 litter/sec 2000 octobre: 1.50 litter/sec	
6. Number of beneficialies 110 (G-6-2) families	of khettara 2000 octobre: 1.50 litter/sec 2001 octobre: 1litter/sec	
7. Cycle of kehttara water right [3] (G-7-1) days	2002 octobre: 1 litter/sec 2002: tarie	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 4 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [77] ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads1appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)1 or appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1-1) 3000 (E-1-1-2)	1) <u>2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)	
Khettara as open channel [0 (E-2-1)	<u> </u>	
Principal and secondary700 (E-4-2-2)irrigation canal1000 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-020 (G-1)	MP	2. Name of commune Alnif (G-2)
3. Name of khettara Kdin	na Ammar	4. Location of khettara $X = 516930.18$ (G-4-1) Y = 65466.94 (G-4-2)
(G-3) 5. Number of families who have khettara water right	210 (G-5-2) families	Y = 65466.94 (G-4-2) 9. Histry of discharge 2002: tarie
-	210 (G-6-2) families	of khettara
7. Cycle of kehttara water right	11 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow	2 (I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	60 ha (IA-1)	12. Irrigated area by the khettara []ha (IA-3)
13. The condition of roads [] (G-	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Ikhalifn Association (G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	<u>300</u> (E-1-1-1 <u>900</u> (E-1-1-2) <u>1.8</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)
Khettara as open channel	<u>50</u> (E-2-1)	1) (E-2-2) 0.6 (E-2-3)
Principal and secondary irrigation canal	<u>3080</u> (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation le khettara		· · · · · · · · · · · · · · · · · · ·
20. Influence of desertification	()	
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water re	sources)	Yes (1), No (2)
Rehabilitation of khettara Installing pump Rehabilitation of irrigation canal		Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicult	al and social support	
Agriculture (storage,producti	Rehabilitatio	
23. Importance of khettara (1) Unique source for both of (2) Unique source for irrigation (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khetta 1 Yes (1), No (2) If no, 1 (G-24)	he reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-021 (G-1)	MP	2. Name of commune Alnif (G-2)
3. Name of khettara Jdida /	Ammar	4. Location of khettara $X = 516930.18$ (G-4-1) Y = 65466.94 (G-4-2)
5 Number of femilies who		9. Histry of discharge 0
6. Number of beneficialies 2	10 (G-6-2) families	of khettara
7. Cycle of kehttara water right	11 (G-7-1) days	
8.Discharge of khettara (latest) 11.	09 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	60 ha A-1)	12. Irrigated area by the khettara [10]ha (IA-3)
13. The condition of roads [1 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	300 (E-1-1-1) 2800 (E-1-1-2)) <u>0</u> (E-1-4-1) <u>0</u> (E-1-5-1)
Khettara as open channel	<u>50</u> (E-2-1)	1 (E-2-2) 0.6 (E-2-3)
Principal and secondary irrigation canal	3080 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation len khettara	gth of 1150 ((M-7)	m) Rehabilitation length of principal 1480 (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)
Rehabilitation of khettara 2 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultua	l and social support	
Agriculture (storage,production	Rehabilitation	School 1 (G-20-4) duct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) n of roads 1 (G-20-2) Hospital 1 (G-20-6) tric supply 2 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara 1 (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, the	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-022 MP (G-1)	2. Name of commune Alnif (G-2)
3. Name of khettara Azrag (G-3)	4. Location of khettara $X = 521631.14$ (G-4-1) Y = 70525.05 (G-4-2)
5. Number of families who 15 (G-5-2) families have khettara water right	9. Histry of discharge 1997 juillet: 1 litter/sec of khettara 1998 octobre: 1.5 litter/sec
6. Number of beneficialies 18 (G-6-2) families	of khettara 1998 octobre: 1.5 litter/sec 1999 octobre: 1 litter/sec
7. Cycle of kehttara water right 6 (G-7-1) days	1999: tarie
8.Discharge of khettara (latest) 0.5 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 1 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 200 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 700 (E-1-1-2	
Khettara as open channel 100 (E-2-1)	1 (E-2-2) 0.5 (E-2-3)
Principal and secondary 1500 (E-4-2-	
irrigation canal	
19. Rehabilitation Rehabilitation length of 300 khettara (M-7)	
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	(I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	ettara [2] (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Rehabilitation of irrigation canal 1 (G-19-2) Co	onstruction of public wells for domestic water 2 (G-19-4) Others 2 (G-19-5)
22.Demandes of habitants (Aglicultual and social support	
Agriculture (storage, production, transporttion of pro	School 2 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5)
Rehabilitati	Consist (G-20-3) Constant (G-20-3)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-023 - (G-1)	2. Name of commune Alnif (G-2)	
(6-1)		
3. Name of khettara Achbarou (G-3)	4. Location of khettara X = <u>545338.17</u> (G-4-1) Y = <u>58279.33</u> (G-4-2)	
5. Number of families who [150] (G-5-2) familie have khettara water right	9. Histry of discharge	
6. Number of beneficialies 150 (G-6-2) familie	s of khettara	
7. Cycle of kehttara water right 16 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 4 (I-9)		
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased	
11. Total area of farmland 34 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)appropriate (1) (1) not appropriate (2)	
17. Existence of Association Yes (1 (G-21) No (2)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 100 (E-1-1		
catchment area and conduit 2250 (E-1-1		
Khettara as open channel [0] (E-2-1		
Principal and secondary 800 (E-4-2	P-1) 0.4 (E-4-3-1) 0.5 (E-4-1-1)	
irrigation canal 300 (E-4-2	P-2) 0.4 (E-4-3-2) 0.5 (E-4-1-2)	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchi	ment area (I-1) Regulation pond (I-5)	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel k		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
Installing pump (G-19-2) (G-19-3) Rehabilitation of irrigation canal (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social supp		
Agriculture (storage,production, transporttion of p		
	tion of roads (G-20-2) Hospital <u>1</u> (G-20-6) ectric supply (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23)		
 (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation 	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(4)Others	

1. Khettara Number G-024 - (G-1)	2. Name of commune Alnif (G-2)	
(6-1)		
3. Name of khettara Lahri (G-3)	4. Location of khettara $X = 530022.53$ (G-4-1) Y = 58433.94 (G-4-2)	
5. Number of families who 300 (G-5-2) families	9. Histry of discharge	
6. Number of beneficialies 300 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 12 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discharge	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) (G-15) (1) appropriate (1) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 500 (E-1-1-	I) 1.2 (E-1-4-1) 0.5 (E-1-5-1)	
catchment area and conduit [2800] (E-1-1-2		
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary 500 (E-4-2-	1) 1 (E-4-3-1) 0.6 (E-4-1-1)	
irrigation canal (E-4-2-2		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchm	ent area (I-1) Regulation pond (I-5)	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppor		
Agriculture (storage,production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5)	
Rehabilitatio		
23. Importance of khettara (G-23)		
 (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
(G-24) Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-025 - (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara Ighil (G-3)	4. Location of khettara $X = 529853.76$ (G-4-1) Y = 61683.53 (G-4-2)	
5. Number of families who 200 (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 200 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 17 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow5(I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) (G-15) (1) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1-2)1500 (E-1-1-2)		
Khettara as open channel 500 (E-2-1)	0.6 (E-2-2) 1.2 (E-2-3)	
Principal and secondary1600 (E-4-2-7)irrigation canal1100 (E-4-2-7)		
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppor	t) Yes (1), No (2)	
Agriculture (storage,production, transporttion of pro Rehabilitatio	School (G-20-4)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-026 - (G-1)	2. Name of commune Alnif (G-2)	
(8-1)		
3. Name of khettara Simmou (G-3)	4. Location of khettara $X = 529853.76$ (G-4-1) Y = 61683.53 (G-4-2)	
5. Number of families who [120] (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 100 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 17 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow5(I-9)		
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [55] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) (G-15) (1) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 400 (E-1-1-	· · · · · · · · · · · · · · · · · · ·	
catchment area and conduit [E-1-1-		
Khettara as open channel [0 (E-2-1)		
Principal and secondary 800 (E-4-2-	1) 0.4 (E-4-3-1) 0.4 (E-4-1-1)	
irrigation canal 0 (E-4-2-		
	(m) Rehabilitation length of principal (m)	
khettara (M-7)	irrigation canal (M-8)	
20. Influence of desertification	ent area (I-1) Regulation pond (I-5)	
(1)Significant damage by desertification		
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
Agriculture (storage,production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system (G-20-5)	
Rehabilitati	on of roads (G-20-2) Hospital (G-20-6) ctric supply (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23)		
 (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-027 (G-1)	-	2. Name of commune Alnif (G-2)
,		· · · ·
3. Name of khettara Tifarouin (G-3)		4. Location of khettara $X = 527284.64$ (G-4-1) Y = 60326.83 (G-4-2)
5. Number of families who 150 (G		9. Histry of discharge
6. Number of beneficialies 150 (G	6-6-2) families	of khettara
7. Cycle of kehttara water right 16 (G	6-7-1) days	
8.Discharge of khettara (latest) 0 (G	6-8) lit/sec	(I-10)
10. History of khettara water flow 5	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [2] (IA-1)	0 ha	12. Irrigated area by the khettara [ha (IA-3)
13. The condition of roads 1 appr	opriate (1) appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
	opriate (1) appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	Yes (1), 6-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	400 (E-1-1-1) 400 (E-1-1-2)	
Khettara as open channel	800 (E-2-1)	0.6 (E-2-2) 0.5 (E-2-3)
Principal and secondary	1000 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara	f (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	ery in catchme ery of conduit n channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources	s)	Yes (1), No (2)
Installing pump	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and	social support) Yes (1), No (2)
		School (G-20-4)
Agriculture (storage,production, trans	Rehabilitation	
23. Importance of khettara (1) Unique source for both of potable v (2) Unique source for irrigation (3) Main source for irrigation	G-23) (G-23) (G-23)	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reaso (G-24)		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-028 - (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara Jatoulte (G-3)	4. Location of khettara $X = 527499.73$ (G-4-1) Y = 61125.31 (G-4-2)	
5. Number of families who [150] (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies [150] (G-6-2) families	of khettara	
7. Cycle of kehttara water right 17 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)		
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. harge of the khettara is constant harge of the khettara is increased	
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) (G-15) (1) appropriate (1) (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 800 (E-1-1-	······································	
catchment area and conduit [5200] (E-1-1-		
Khettara as open channel [260] (E-2-1)	······································	
Principal and secondary [1500] (E-4-2-	1) 1 (E-4-3-1) 0.5 (E-4-1-1)	
irrigation canal (E-4-2-		
	(m) Rehabilitation length of principal (m)	
khettara (M-7)	irrigation canal (M-8)	
20. Influence of desertification	ent area (I-1) Regulation pond (I-5)	
(1)Significant damage by desertification		
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara (G-19-1)	Protection dike against flood (G-19-4)	
Installing pump (G-19-2) C Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
Agriculture (storage,production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system (G-20-5)	
Rehabilitati	on of roads (G-20-2) Hospital (G-20-6) actric supply (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23)		
 (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-029 - (G-1)	2. Name of commune Alnif (G-2)	
(9-1)		
3. Name of khettara (G-3)	4. Location of khettara $X = 530913.21$ (G-4-1) Y = 56696.08 (G-4-2)	
5. Number of families who 162 (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 221 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 7 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 3 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 400 (E-1-1-		
catchment area and conduit 900 (E-1-1-2		
Khettara as open channel400 (E-2-1)	<u>0.5</u> (E-2-2) <u>0.6</u> (E-2-3)	
Principal and secondary 600 (E-4-2-	1) 0.4 (E-4-3-1) 0.4 (E-4-1-1)	
irrigation canal (E-4-2-		
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchm	ent area (I-1) Regulation pond (I-5)	
(2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification		
21.Demandes of habitants (water resources)	ettara (I-3) Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social support	rt) Yes (1), No (2)	
Agriculture (storage, production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5)	
Rehabilitati	oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23)		
 (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
(G-24) Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-030 - (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara (G-3)	4. Location of khettara $X = 530898.30$ (G-4-1) Y = 61498.794 (G-4-2)	
5. Number of families who [118] (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 221 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 15 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow3(I-9)	·	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [50] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit300 (E-1-1- 80 (E-1-1-)		
Khettara as open channel 50 (E-2-1)	0.8 (E-2-2) 0.5 (E-2-3)	
Principal and secondary1000 (E-4-2-irrigation canal200 (E-4-2-		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)	
Agriculture (storage,production, transporttion of pro Rehabilitati	School (G-20-4)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-031 -	2.	Name of commune	Alnif (G-2)
(G-1)			()
3. Name of khettara Bouichichao (G-3)	4.	Location of khettara	X = <u>532119.73</u> (G-4-1) Y = <u>49195.177</u> (G-4-2)
5. Number of families who 221 (G-5-2) families who		Histry of discharge	0
6. Number of beneficialies 221 (G-6-2)	milies Of	khettara	
7. Cycle of kehttara water right 8 (G-7-1)	days		
8.Discharge of khettara (latest) 0 (G-8) lit	/sec	(I-10)	
10. History of khettara water flow 2 (-9)		
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	khettara ha ar in the rece discharge	e dry season in the past five as water flow, but the disch ent five years. of the khettara is constant of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland [80] ha (IA-1)	12	2. Irrigated area by the	khettara <u>O</u> ha (IA-3)
13. The condition of roads 2 appropriate (1 (G-15) not appropriate		4.The condition of sch	iools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1 (G-17) not appropriate		6.Facility of electricity elecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
		yes, Name of ssociation	(G-22)
18. Situation of khettara Length	(m)	Sectio hight(m)	n of khettara (average))
Gallery of khettara (Gallery in catchment area and conduit400 (E 1200 (E	,	<u> </u>	, , ,
Khettara as open channel 0 (E		0 (E-2-2	
Principal and secondary 800 (E irrigation canal 0 (E	-4-2-1) -4-2-2)	0.4 (E-4-3 0 (E-4-3	/ I
19. Rehabilitation Rehabilitation length of khettara (M-	(m)	Rehabilitation I irrigation canal	ength of principal (m) (M-8)
20. Influence of desertification	,		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in ca Gallery of co Open chann	onduit	(I-2) Ir	rigation canals (I-5)
21.Demandes of habitants (water resources)		Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Constr	Protection di ruction of public wells for	ike against flood 1 (G-19-4) domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social s	ipport)	Yes (1), No (2)	
School (G-20-4)			
Agriculture (storage,production, transporttion Reha	of product oilitation of Electric	f roads 1 (G-20-2)	Sanitary system (G-20-5) Hospital (G-20-6) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigation (3) Main source for irrigation		(4) Partial source for (5) Supplementary so (6) Neglected	irrigation
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24)		Constrains in landscape Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number G-032 -	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Ahadjmi (G-3)	4. Location of khettara $X = 533835.93$ (G-4-1) Y = 54749.32 (G-4-2)
5. Number of families who [140] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 143 (G-6-2) families	of khettara
7. Cycle of kehttara water right (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each be recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 250 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit [2000] (E-1-1-	
Khettara as open channel 500 (E-2-1)	· · · · · · · · · · · · · · · · · · ·
Principal and secondary 1250 (E-4-2-	1) 0.4 (E-4-3-1) 0.5 (E-4-1-1)
irrigation canal (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	nent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital (G-20-6) octric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-033 - (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara Lakdima (G-3)	4. Location of khettara $X = 534323.34$ (G-4-1) Y = 56426.9 (G-4-2)	
5. Number of families who [140] (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 143 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 9 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2 (I-9)	-	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased	
11. Total area of farmland [25] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in100 (E-1-1-catchment area and conduit3500 (E-1-1-	1) <u>1.5</u> (E-1-4-1) <u>1</u> (E-1-5-1)	
Khettara as open channel 0 (E-2-1)		
Principal and secondary2350 (E-4-2-irrigation canal0 (E-4-2-		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) construction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo	ort) Yes (1), No (2)	
School (G-20-4)		
	oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

1. Khettara Number G-034 (G-1)		2. Name of commune Alnif (G-2)
,		
3. Name of khettara (G-3)	te	4. Location of khettara $X = 536014.43$ (G-4-1) Y = 55776.68 (G-4-2)
5. Number of families who have khettara water right	64 (G-5-2) families	9. Histry of discharge 1998 juillet: 1 litter/sec of khettara 1999 juillet: 2 litter/sec
6. Number of beneficialies	78 (G-6-2) families	of khettara 1999 juillet: 2 litter/sec 2000 juillet: 2 litter/sec
7. Cycle of kehttara water right	9 (G-7-1) days	2001 juillet: 1.5 litter/sec 2002: tarie
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4	. (I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	ha A-1)	12. Irrigated area by the khettara 0ha (IA-3)
13. The condition of roads (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	(G-21) Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	500 (E-1-1-1)	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit	4150 (E-1-1-2)	
Khettara as open channel	0 (E-2-1)	0.4 (E-2-2) 0.5 (E-2-3)
Principal and secondary	400 (E-4-2-1)) 0.4 (E-4-3-1) 0.6 (E-4-1-1)
irrigation canal	0 (E-4-2-2)	
19. Rehabilitation Rehabilitation len khettara	igth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification	Gallery in catchme	ent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification	Gallery of conduit Open channel khe	3 (I-2) Irrigation canals (I-7) ittara (I-3)
21.Demandes of habitants (water reso	•	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4)		
Installing pump Rehabilitation of irrigation canal 1	(G-19-2) Cor (G-19-3)	nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultua	and social support	
Agriculture (storage,production, transporttion of product, etc.) (G-20-1) Sanitary system 1 (G-20-5)		
	Rehabilitation	
23. Importance of khettara	(G-23)	
(1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation	\ /	on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettar	a	
Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-035 -	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Outadghate (G-3)	4. Location of khettara $X = 539402.75$ (G-4-1) Y = 57785.81 (G-4-2)
5. Number of families who 600 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 680 (G-6-2) families	of khettara
7. Cycle of kehttara water right 9 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	-
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [50] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit50 (E-1-1- 4450 (E-1-1-	
Khettara as open channel 300 (E-2-1)	· · · · · · · · · · · · · · · · · · ·
Principal and secondary600 (E-4-2-irrigation canal0 (E-4-2-	
	(m) Rehabilitation length of principal (m)
	irrigation canal (M-8)
20. Influence of desertification Gallery in catchr	nent area 2 (I-1) Regulation pond (I-5)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it <u>2</u> (I-2) Irrigation canals <u>1</u> (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
Agriculture (storage,production, transporttion of pr	
	ion of roads 1 (G-20-2) Hospital (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number G-036 - (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara Jdida (G-3)	4. Location of khettara $X = 551070.75$ (G-4-1) Y = 56350.82 (G-4-2)	
5. Number of families who 50 (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 600 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 10 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 4 (I-9)	·	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara 30ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication 2 appropriate (1) (G-18) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1-2 6000 (E-1-1-2		
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary2000 (E-4-2-7)irrigation canal0 (E-4-2-7)		
19. RehabilitationRehabilitation length of khettara6000 (M-7)	(m) Rehabilitation length of principal 1000 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara (G-19-1)	Protection dike against flood (G-19-4)	
	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppor	rt) Yes (1), No (2)	
Agriculture (storage,production, transporttion of pro Rehabilitatio	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system (G-20-5)	
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
G-24) Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

KHETTARA DATBASE			
1. Khettara Number G-037 MP (G-1)	2. Name of commune Alnif (G-2)		
	· · ·		
3. Name of khettara (G-3)	4. Location of khettara $X = 537561.19$ (G-4-1) Y = 61115.06 (G-4-2)		
5. Number of families who 60 (G-5-2) familie have khettara water right	9. Histry of discharge 1999 Juliet. 1.5 Intel/sec		
6. Number of beneficialies 60 (G-6-2) familie	of khottara 2000 juillet: 2 litter/sec		
7. Cycle of kehttara water right 10 (G-7-1) days			
8.Discharge of khettara (latest) 5 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 6 (I-9)			
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in(4)No water in the past five years(7)The disc	(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.		
11. Total area of farmland 95 ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)		
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication 2 appropriate (1) (G-18) not appropriate (2)		
17. Existence of Association 2 Yes (1 (G-21) No (2)			
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit1300 (E-1-1 2500 (E-1-1	-1) <u>1.3</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)		
Khettara as open channel 0 (E-2-1			
Principal and secondary1500 (E-4-2irrigation canal0 (E-4-2			
19. Rehabilitation Rehabilitation length of 1300 (M-7)	(m) Rehabilitation length of principal <u>300</u> (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit 2 (I-2) Irrigation canals 2 (I-7) hettara 2 (I-3)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 2 (G-19-5)		
Rehabilitation of irrigation canal (G-19-3)	Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 2 (G-20-4			
Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital 1 (G-20-6) Electric supply 1 (G-20-3) Others (G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras		
(G-24) (G-25)	(2)Prohibited by law (4)Others		

1. Khettara Number G-038 -	2. Name of commune Alnif (G-2)	
(G-1)		
3. Name of khettara Mimasighene (G-3)	4. Location of khettara $X = 542128.19$ (G-4-1) Y = 56419.89 (G-4-2)	
5. Number of families who (G-5-2) families have khettara water right	9. Histry of discharge 1973: taris	
6. Number of beneficialies 70 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 12 (G-7-1) days]	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland 200 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 300 (E-1-1-		
catchment area and conduit 2700 (E-1-1-2		
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary 5000 (E-4-2-		
irrigation canal 0 (E-4-2-2		
	(m) Rehabilitation length of principal (m)	
khettara (M-7)	irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification Gallery in catchm		
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh		
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)	
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
	on of roads 1 (G-20-2) Hospital 1 (G-20-6)	
Ele	ctric supply 1 (G-20-3) Others 1 (G-20-7)	
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-039 - (G-1)	2. Name of commune Alnif (G-2)
	4. Location of khettara X = 546449.99 (G-4-1)
3. Name of khettara Amagane (G-3)	4. Example 1 (G-4-1) Y = 57449.58 (G-4-2)
5. Number of families who 60 (G-5-2) families	9. Histry of discharge 1968: taris
6. Number of beneficialies 60 (G-6-2) families	of khettara
7. Cycle of kehttara water right 14 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [180] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 260 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 2740 (E-1-1-2	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 2200 (E-4-2-	1) 0.6 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal 0 (E-4-2-	2) 0 (E-4-3-2) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
	onstruction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
	on of roads 1 (G-20-2) Hospital 1 (G-20-6)
	ctric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-040 - (G-1)	2. Name of commune Alnif (G-2)
3. Name of khettara Oufesfoul (G-3)	4. Location of khettara $X = 546861.75$ (G-4-1) Y = 57827.36 (G-4-2)
5. Number of families who 60 (G-5-2) families have khettara water right	9. Histry of discharge 1978: taris
6. Number of beneficialies 60 (G-6-2) families	of khettara
7. Cycle of kehttara water right 20 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 300 (E-1-1-	1) 1.5 (E-1-4-1) 0.6 (E-1-5-1)
catchment area and conduit 4300 (E-1-1-2	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 1700 (E-4-2-	1) 0.4 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal (E-4-2-2	2) 0 (E-4-3-2) 0 (E-4-1-2)
khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood (G-19-4)
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
Agriculture (storage,production, transporttion of pro	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system (G-20-5)
Rehabilitati	Image: Construction of roads Image: Construction of roads <th< td=""></th<>
23. Importance of khettara (G-23)	
(1) Unique source for both of potable water and irrigation	tion (4) Partial source for irrigation
(2) Unique source for irrigiton (3) Main source for irrigation	(5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-041 -	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Ait Hammou (G-3)	4. Location of khettara $X = 533422.55$ (G-4-1) Y = 57043.06 (G-4-2)
5. Number of families who 40 (G-5-2) families have khettara water right	9. Histry of discharge 1992 juin: taris
6. Number of beneficialies 70 (G-6-2) families	of khettara
7. Cycle of kehttara water right 12 (G-7-1) days	1
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland 300 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 1000 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 2400 (E-1-1-2	
Khettara as open channel0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 2000 (E-4-2-	1) 0.3 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal (E-4-2-2	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals 1 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	
	on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others (G-20-7)
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras
(G-24) (G-25)	(2)Prohibited by law (4)Others

1. Khettara Number G-042 -	2. Name of commune Alnif (G-2)	
(G-1)		
3. Name of khettara Taghouchte (G-3)	4. Location of khettara $X = 532178.43$ (G-4-1) Y = 66320.91 (G-4-2)	
5. Number of families who	9. Histry of discharge	
6. Number of beneficialies 11 (G-6-2) families	of khettara	
7. Cycle of kehttara water right [[] 8 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 5 (I-9)		
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased	
11. Total area of farmland [16] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit 200 (E-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
Khettara as open channel 0 (E-2-1)		
Principal and secondary irrigation canal (E-4-2-		
19. Rehabilitation Rehabilitation length of [khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo		
	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system (G-20-5) ion of roads 1 (G-20-2) Hospital (G-20-6) actric supply 1 (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-043 - (G-1)	2. Name of commune Alnif (G-2)
	4. Location of khettara X = 533523.41 (G-4-1)
3. Name of khettara Sghira (G-3)	4. Location of knettara $X = 1333523.41$ (G-4-1) Y = 59369.32 (G-4-2)
5. Number of families who85 (G-5-2) far	families 9. Histry of discharge 0
6. Number of beneficialies 500 (G-6-2) far	families of khettara
7. Cycle of kehttara water right 9 (G-7-1) da	days
8.Discharge of khettara (latest) 0 (G-8) lit/	(I-10)
10. History of khettara water flow (I-	(I-9)
(2)No water in the last two-decade(6)The(3)No water in the last decadeyear(4)No water in the past five years(7)The	o water in the dry season in the past five years he khettara has water flow, but the discharge of khettara is reduced each hear in the recent five years. he discharge of the khettara is constant he discharge of the khettara is increased
11. Total area of farmland 60 ha (IA-1)	12. Irrigated area by the khettara [60]ha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate	
	es (1), If yes, Name of o (2) Association (G-22)
18. Situation of khettara Length (n (m) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit400 (E- 4600 (E-	E-1-1-1) 0.5 (E-1-4-1) 1.2 (E-1-5-1)
Khettara as open channel 2000 (E-2	
Principal and secondary250 (E-irrigation canal0 (E-	E-4-2-1)0.3(E-4-3-1)0.2(E-4-1-1)E-4-2-2)0(E-4-3-2)0(E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-7	0 (m) -7) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara (G-19-1)) Protection dike against flood (G-19-4)
Installing pump (G-19-2) Rehabilitation of irrigation canal (G-19-3)	
22.Demandes of habitants (Aglicultual and social su	
Agriculture (storage,production, transporttion o Rehab	School(G-20-4)of product , etc.)(G-20-1)Sanitary system(G-20-5)abilitation of roads(G-20-2)Hospital(G-20-6)Electric supply(G-20-3)Others(G-20-7)
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and i (2) Unique source for irrigation (3) Main source for irrigation 24. Possibility of extension of khettara 	3)
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-044 - (G-1)		. Name of commune	Alnif (G-2)	
		. Location of khettara	. ,	358.92 (G-4-1)
3. Name of khettara (G-3)		. Location of knettara		1 <u>358.92</u> (G-4-1) 1794.77 (G-4-2)
5. Number of families who [500] (G-5-2) families have khettara water right		. Histry of discharge	1988: tarie	
6. Number of beneficialies 500 (G-6-2) f	amilies (f khettara		
7. Cycle of kehttara water right 9 (G-7-1)	days			
8.Discharge of khettara (latest) 0 (G-8) lit	/sec	(I-10))	
10. History of khettara water flow 2 (I-9)			
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	e khettara ar in the r e discharg	he dry season in the past fi has water flow, but the disc cent five years. e of the khettara is constan e of the khettara is increase	charge of khettara t	is reduced each
11. Total area of farmland 200 ha (IA-1)		2. Irrigated area by th	e khettara	0ha (IA-3)
13. The condition of roads 2 appropriate (1 (G-15)		4.The condition of sc	hools 2 (G-16)	appropriate (1)) not appropriate (2)
15.Sanitary service 2 appropriate (1 (G-17) not appropriate		6.Facility of electricity elecomunication	y and 2 (G-18	appropriate (1) not appropriate (2)
	es (1), o (2)	If yes, Name of Association	(G-22)	
18. Situation of khettara Length	(m)	Secti hight(n	on of khettara n)	(average) width (m)
Gallery of khettara (Gallery in catchment area and conduit200 (E2400 (E	-1-1-1) -1-1-2)	<u> </u>	/	0.6 (E-1-5-1) 0.6 (E-1-5-2)
•	-2-1)	0 (E-2-		0 (E-2-3)
Principal and secondary2000 (Eirrigation canal0 (E	-4-2-1) -4-2-2)	0.3 (E-4- 0 (E-4-	· · ·	0.4 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-	(n 7)) Rehabilitation irrigation cana		cipal (m) (M-8)
20. Influence of desertification				
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open chann	onduit	<u>2</u> (I-2)	Regulation po Irrigation cana	
21.Demandes of habitants (water resources)		Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Con	Protection of public wells for	dike against floo or domestic wat Othe	er (G-19-5)
22.Demandes of habitants (Aglicultual and social s	upport)	Yes (1), No (2)		
Agriculture (storage,production, transporttion	of produ		Sanitary sys	
Kella		c supply 1 (G-20-3)	1100	pital <u>1</u> (G-20-6) hers (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigition (3) Main source for irrigation		(4) Partial source for(5) Supplementary source(6) Neglected		ion
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-2) (G-24))Constrains in landscape)Prohibited by law	e (3)Existence (4)Others	e of other khettaras

1. Khettara Number G-045 -	2. Name of commune Alnif (G-2)
(G-1)	· · · ·
3. Name of khettara Taourirte (G-3)	4. Location of khettara $X = 522290.94$ (G-4-1) Y = 58419.8 (G-4-2)
5. Number of families who [100] (G-5-2) famili have khettara water right	9. Histry of discharge
6. Number of beneficialies 400 (G-6-2) famili	of khettara
7. Cycle of kehttara water right 12 (G-7-1) days	5
8.Discharge of khettara (latest) 0 (G-8) lit/se	(I-10)
10. History of khettara water flow (I-9)	
(2)No water in the last two-decade(6)The khow(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ter in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. scharge of the khettara is constant scharge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara 40ha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 appropriate (1) (G-18)01 (G-18)
17. Existence of Association 2 Yes ((G-21) No (2	
18. Situation of khettara Length (m	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit500 (E-1- 1000 (E-1-	
Khettara as open channel 1000 (E-2-	· · · · · · · · · · · · · · · · · · ·
Principal and secondary300 (E-4-irrigation canal250 (E-4-	
i ———— `	0 (m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catch Gallery of cond Open channel I	luit (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara (G-19-1) Installing pump (G-19-2) Rehabilitation of irrigation canal (G-19-3)	Protection dike against flood (G-19-4) Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	School (G-20-4)
	product , etc.) (G-20-1) Sanitary system (G-20-5) ation of roads (G-20-2) Hospital (G-20-6) Electric supply (G-20-3) Others (G-20-7)
 23. Importance of khettara (G-23) (1) Unique source for both of potable water and irri (2) Unique source for irrigation (3) Main source for irrigation 24. Possibility of extension of khettara 	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

KHETTARA DATBASE		
1. Khettara Number G-046 MP	2. Name of commune Alnif	
(G-1)	(G-2)	
3. Name of khettara Tanout Noum (G-3)	4. Location of khettara $X = 516186.84$ (G-4-1) Y = 56741.36 (G-4-2)	
5. Number of families who 49 (G-5-2) famili have khettara water right	9. Histry of discharge 2000 octobre. 2.00 litter/sec	
6. Number of beneficialies 49 (G-6-2) famili	es of khettara 2001 octobre: 1.50 litter/sec 2002 octobre: 1.50 litter/sec	
7. Cycle of kehttara water right (G-7-1) days	5	
8.Discharge of khettara (latest) 1 (G-8) lit/se	c (I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The kho(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ter in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant ccharge of the khettara is increased	
11. Total area of farmland 20 ha (IA-1)	12. Irrigated area by the khettara 0.03 ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication (G-18) not appropriate (2)	
17. Existence of Association 2 Yes (1 (G-21) No (2		
18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit60 (E-1- 240 (E-1-	1-1) <u>4</u> (E-1-4-1) <u>0.8</u> (E-1-5-1)	
Khettara as open channel 190 (E-2-		
Principal and secondary 300 (E-4- irrigation canal 0 (E-4-		
19. Rehabilitation Rehabilitation length of 5 khettara (M-7)	3 (m) Rehabilitation length of principal 193 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel I	uit 2 (I-2) Irrigation canals 2 (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 1 (G-19-5)	
Rehabilitation of irrigation canal 1 (G-19-3)	Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social supp	oort) Yes (1), No (2) School 2 (G-20-4)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irri (2) Unique source for irrigtion (3) Main source for irrigation		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras	
(G-24) (G-25)	(2)Prohibited by law (4)Others	

KHETTARA DATBASE			
1. Khettara Number G-047 (G-1)	MP	2. Name of commune	Alnif (G-2)
3. Name of khettara Taguelo (G-3)	goult	4. Location of khettara	X = <u>519602.55</u> (G-4-1) Y = <u>58799.22</u> (G-4-2)
nave knettara water right	(G-5-2) families (G-6-2) families	9. Histry of discharge of khettara	2000 octobre: 2.0 litter/sec 2001 octobre: 2.0 litter/sec
	6 (G-7-1) days		2002 octobre: 1.5 litter/sec
8.Discharge of khettara (latest) 1.0	8 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6	(I-9)		
(1)No water from 1950s or 1970s.(2)No water in the last two-decade(3)No water in the last decade(4)No water in the past five years	(6)The khettar year in the (7)The discha	n the dry season in the past five ra has water flow, but the disch- recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland [IA	20 ha -1)	12. Irrigated area by the	khettara <u>5</u> ha (IA-3)
13. The condition of roads [1] (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	ools 1 appropriate (1) (G-16) ^{not} appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Section hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	620 (E-1-1-1 730 (E-1-1-2		
Khettara as open channel	<u>240</u> (E-2-1)	<u>1.2</u> (E-2-2	
Principal and secondary irrigation canal	680 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation leng khettara	th of 400 ((M-7)	m) Rehabilitation le irrigation canal	ength of principal 600 (m) (M-8)
20. Influence of desertification			egulation pond 2 (I-5)
(1) Significant damage by desertification (2) Partial damage by desertification (2) Naclisible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	ttara 2 (I-3)	rigation canals 2 (I-7)
21.Demandes of habitants (water resou	,	Yes (1), No (2)	
Rehabilitation of khettara 2 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Con (G-19-3)	Protection di nstruction of public wells for	ke against flood 1 (G-19-4) domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual	and social support) Yes (1), No (2)	
Agriculture (storage,production,	Rehabilitatio		School 1 (G-20-4 Sanitary system 1 (G-20-5 Hospital 1 (G-20-6 Others (G-20-7
23. Importance of khettara (1) Unique source for both of pot (2) Unique source for irrigition (3) Main source for irrigation	(G-23) able water and irrigati	on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)		(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number G-048 MP (G-1)	2. Name of commune Alnif (G-2)
3. Name of khettara Jorf (G-3)	4. Location of khettara $X = 518605.59$ (G-4-1) Y = 63267.31 (G-4-2)
5. Number of families who 61 (G-5-2) famili	9. Histry of discharge
6. Number of beneficialies 15 (G-6-2) famili	of khettara
7. Cycle of kehttara water right 11 (G-7-1) day	s
8.Discharge of khettara (latest) 1 (G-8) lit/se	ec (I-10)
10. History of khettara water flow 3 (I-9))
(2)No water in the last two-decade(6)The kh(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ater in the dry season in the past five years nettara has water flow, but the discharge of khettara is reduced each in the recent five years. scharge of the khettara is constant scharge of the khettara is increased
11. Total area of farmland [13] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 2 Yes ((G-21) No (2	
18. Situation of khettara Length (m	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit800 (E-1- 1600 (E-1-	
Khettara as open channel 400 (E-2-	
Principal and secondary700 (E-4-irrigation canal0 (E-4-	
19. Rehabilitation Rehabilitation length of 240 khettara (M-7)	00 (m) Rehabilitation length of principal 700 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catch Gallery of cond Open channel	duit (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	port) Yes (1), No (2)
	School 2 (G-20-4) product , etc.) (G-20-1) Sanitary system 2 (G-20-5) tation of roads 1 (G-20-2) Hospital 2 (G-20-6) Electric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irri (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-049 - (G-1)	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Lakdima (G-3)	4. Location of khettara $X = 534090.74$ (G-4-1) Y = 58545.62 (G-4-2)
5. Number of families who [166] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 169 (G-6-2) families	of khettara
7. Cycle of kehttara water right (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow3(I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [160] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 400 (E-1-1-	1) 1.5 (E-1-4-1) 1 (E-1-5-1)
catchment area and conduit [2600] (E-1-1-	
Khettara as open channel [0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 400 (E-4-2-	1) 0.2 (E-4-3-1) 0.4 (E-4-1-1)
irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area 3 (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital (G-20-6) ctric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-050	-	2. Name of commune Alnif (G-2)
(G-1)		
3. Name of khettara Hada Ouyidi (G-3)		4. Location of khettara $X = 536245.09$ (G-4-1) Y = 57961.74 (G-4-2)
5. Number of families who 46 (G	,	9. Histry of discharge 0
6. Number of beneficialies 46 (G	-6-2) families	of khettara
7. Cycle of kehttara water right [] 8 (G	-7-1) days	
8.Discharge of khettara (latest) 0 (G	-8) lit/sec	(I-10)
10. History of khettara water flow 1	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [10.10] (IA-1)) ha	12. Irrigated area by the khettara [0]ha (IA-3)
13. The condition of roads 2 appro	opriate (1) ppropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
	opriate (1) ppropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association G	Yes (1), -21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	<u>100</u> (E-1-1-1) 900 (E-1-1-2)	
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 1 irrigation canal	200 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of khettara	(M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	(
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	ery in catchme ery of conduit n channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources	;)	Yes (1), No (2)
Installing pump	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and s	social support) Yes (1), No (2)
		School (G-20-4)
Agriculture (storage,production, trans	Rehabilitation	
23. Importance of khettara (1) Unique source for both of potable w (2) Unique source for irrigition (3) Main source for irrigation	(G-23) vater and irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reaso (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-051 - (G-1)	2. Name of commune Alnif (G-2)
(6-1)	
3. Name of khettara Maghnia (G-3)	4. Location of khettara $X = 541539.9$ (G-4-1) Y = 58265.84 (G-4-2)
5. Number of families who [170] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies [180] (G-6-2) families	of khettara
7. Cycle of kehttara water right 8 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discl	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased
11. Total area of farmland [50] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 50 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 200 (E-1-1-	
Khettara as open channel 100 (E-2-1)	
Principal and secondary 1000 (E-4-2-	-1) 0.5 (E-4-3-1) 0.5 (E-4-1-1)
irrigation canal (E-4-2-	-2) (E-4-3-2) (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	it [2] (I-2) Irrigation canals [2] (I-7)
21.Demandes of habitants (water resources)	nettara 2 (I-3) Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
	Construction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	ort) Yes (1), No (2)
	School 2 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital 2 (G-20-6) ectric supply 2 (G-20-3) Others 2 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others

KHETTARA DATBASE		
1. Khettara Number G-052 MP (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara	4. Location of khettara $X = 509608.72$ (G-4-1) Y = 55087.74 (G-4-2)	
5. Number of families who have khettara water right43 (G-5-2)familie familie6. Number of beneficialies42 (G-6-2)familie7. Cycle of kehttara water right9 (G-7-1)days8.Discharge of khettara (latest)0.74 (G-8)lit/sec	9. Histry of discharge 1997. 1.30 litter/sec of khettara 1998: 1.50 litter/sec 2000 octobre: 1 litter/sec 2000 ctobre: 1 litter/sec 2000: tarie	
10. History of khettara water flow 4 (I-9)		
(1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years(5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased		
11. Total area of farmland 55 ha (IA-1)	12. Irrigated area by the khettara 0.25 ha (IA-3)	
13. The condition of roads 1 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) (not appropriate (2))	
17. Existence of Association 2 Yes (1 (G-21) No (2)		
18. Situation of khettara Length (m)) Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit350 (E-1-1 1200 (E-1-1		
Khettara as open channel [18] (E-2-1		
Principal and secondary1960 (E-4-2irrigation canal0 (E-4-2		
19. Rehabilitation Rehabilitation length of [960 khettara (M-7)	(m) Rehabilitation length of principal 1480 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit <u>2</u> (I-2) Irrigation canals <u>2</u> (I-7) hettara <u>2</u> (I-3)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara1(G-19-1)Installing pump2(G-19-2)Rehabilitation of irrigation canal1(G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water 0 (G-19-5) Others 2 (G-19-6)	
22.Demandes of habitants (Aglicultual and social supp	ort) Yes (1), No (2)	
Agriculture (storage,production, transporttion of p Rehabilita	School 1 (G-20-4	
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigation (3) Main source for irrigation	(4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

1. Khettara Number G-053 MP (G-1)	2. Name of commune Alnif (G-2)
, 	
3. Name of khettara Tiguirna (G-3)	4. Location of khettara $X = 512892.19$ (G-4-1) Y = 50199.23 (G-4-2)
5. Number of families who [120] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 120 (G-6-2) families	of khettara
7. Cycle of kehttara water right 7 (G-7-1) days]
8.Discharge of khettara (latest) 1.9 (G-8) lit/sec	(I-10)
10. History of khettara water flow 6 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara [5]ha (IA-3)
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit650 (E-1-1- 975 (E-1-1-	
Khettara as open channel 231 (E-2-1)	
Principal and secondary176 (E-4-2-irrigation canal0 (E-4-2-	
19. Rehabilitation Rehabilitation length of 648 khettara (M-7)	(m) Rehabilitation length of principal 922 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [3] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
	School 2 (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 2 (G-20-2) Hospital 1 (G-20-6) octric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-054 -	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Taichoute (G-3)	4. Location of khettara $X = 511709.47$ (G-4-1) Y = 45345.49 (G-4-2)
5. Number of families who (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 42 (G-6-2) families	of khettara
7. Cycle of kehttara water right 8 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each be recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [14] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Anzar Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit100 (E-1-1- 400 (E-1-1-	
Khettara as open channel 1250 (E-2-1)	·
Principal and secondary1460 (E-4-2-irrigation canal0 (E-4-2-	
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t 2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 2 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 2 (G-19-4) onstruction of public wells for domestic water Others (G-19-5)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
	School 2 (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) ion of roads 2 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-055 MP	2. Name of commune Alnif (G-2)	
(G-1)		
3. Name of khettara Tinififte (G-3)	4. Location of khettara $X = 524295.58$ (G-4-1) Y = 72182.35 (G-4-2)	
5. Number of families who 61 (G-5-2) families	9. Histry of discharge 2000 octobre: 4 litter/sec 2001 octobre: 3.5 litter/sec	
6. Number of beneficialies 25 (G-6-2) families	of khettara 2001 octobre: 3.5 litter/sec 2002 octobre: 3.5 litter/sec	
7. Cycle of kehttara water right 17 (G-7-1) days]	
8.Discharge of khettara (latest) 4.85 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 350 (E-1-1-		
catchment area and conduit 900 (E-1-1-2		
Khettara as open channel 50 (E-2-1)	0.4 (E-2-2) 0.5 (E-2-3)	
Principal and secondary 816 (E-4-2-	1) 0.4 (E-4-3-1) 0.5 (E-4-1-1)	
irrigation canal		
19. Rehabilitation Rehabilitation length of 400 khettara (M-7)		
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	2 (I-2) Irrigation canals 2 (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
	School 2 (G-20-4) oduct , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others 2 (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-056 MP	2. Name of commune Alnif (G-2)	
(G-1)		
3. Name of khettara (G-3)	4. Location of khettara $X = 531593.43$ (G-4-1) Y = 68724.95 (G-4-2)	
5. Number of families who [28] (G-5-2) families have khettara water right	9. Histry of discharge 1999 juillet: 3.5 litter/sec	
6. Number of beneficialies 20 (G-6-2) families	of khettara 2000 juillet: 4 litter/sec 2001 juillet: 3.5 litter/sec	
7. Cycle of kehttara water right 9 (G-7-1) days	2002 juillet: 3 litter/sec	
8.Discharge of khettara (latest) 1 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara [5]ha (IA-3)	
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit460 (E-1-1- 560 (E-1-1-	1) <u>1.3</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)	
Khettara as open channel 73 (E-2-1)	0.6 (E-2-2) 0.5 (E-2-3)	
Principal and secondary1800 (E-4-2-irrigation canal0 (E-4-2-		
19. Rehabilitation Rehabilitation length of 200 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [2] (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump2(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others2		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)ConstraintsSchoolGrad<		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

KHETT	ARA	DAT	BASE

1. Khettara Number G-057 MP (G-1)	2. Name of commune Alnif (G-2)	
3. Name of khettara Talghazite (G-3)	4. Location of khettara X = <u>529212.69</u> (G-4-1) Y = <u>69749.66</u> (G-4-2)	
5. Number of families who 14 (G-5-2) familie have khettara water right	^s 9. Histry of discharge 2000 juillet: 1.50 litter/sec	
6. Number of beneficialies 14 (G-6-2) familie	of khettara 2001 juillet: 1 litter/sec	
7. Cycle of kehttara water right 9 (G-7-1) days	2002 juillet: 1 litter/sec	
	(I-10)	
10. History of khettara water flow6+7(I-9)		
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in t(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each he recent five years. charge of the khettara is constant charge of the khettara is increased	
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 appropriate (1) (G-18) not appropriate (2)	
17. Existence of Association 2 Yes (1) (G-21) No (2)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit133 (E-1-1 316 (E-1-1		
Khettara as open channel64 (E-2-1		
Principal and secondary 500 (E-4-2 irrigation canal 0 (E-4-2		
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal 40 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchr Gallery of condu Open channel k	it (I-2) Irrigation canals 2 (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water1(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)2(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others2(G-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

1. Khettara Number G-058 MP	2. Name of commune Alnif (G-2)	
(G-1)	· · · · · · · · · · · · · · · · · · ·	
3. Name of khettara Tihammate (G-3)	4. Location of khettara $X = 529977.64$ (G-4-1) Y = 69810.46 (G-4-2)	
5. Number of families who 32 (G-5-2) familie:	9. Histry of discharge	
6. Number of beneficialies 54 (G-6-2) familie	s of khettara	
7. Cycle of kehttara water right 9 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow4+5(I-9)		
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in t(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased	
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara [0]ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 2 Yes (1) (G-21) No (2)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in 300 (E-1-1		
catchment area and conduit 600 (E-1-1		
Khettara as open channel 300 (E-2-1		
Principal and secondary 600 (E-4-2	-1) 0.4 (E-4-3-1) 0.4 (E-4-1-1)	
irrigation canal [[][][][][][][][][][][][][][][][][][][-2) 0 (E-4-3-2) 0 (E-4-1-2)	
19. Rehabilitation Rehabilitation length of 30 (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	iit [2] (I-2) Irrigation canals [2] (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 2 (G-19-4)	
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 1 (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
	tion of roads 1 (G-20-2) Hospital 1 (G-20-6)	
	ectric supply 1 (G-20-3) Others 2 (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara		
1 Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-059 MP	2. Name of commune Alnif	
(G-1)	(G-2)	
3. Name of khettara	4. Location of khettara X = 532144.49 (G-4-1)	
(G-3)	Y = 67808.72 (G-4-2)	
5. Number of families who Area (G-5-2) families have khettara water right	9. Histry of discharge 2000 juillet: 2.0 litter/sec	
6. Number of beneficialies 79 (G-6-2) families	of khettara 2001 juillet: 1.5 litter/sec 2002 juillet: 1.5 litter/sec	
7. Cycle of kehttara water right 10 (G-7-1) days		
8.Discharge of khettara (latest) 0.48 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara [4]ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit200 (E-1-1- 540 (E-1-1-)	1) <u>1.3</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary3013 (E-4-2-irrigation canal0 (E-4-2-		
19. Rehabilitation Rehabilitation length of 120 khettara (M-7)	(m) Rehabilitation length of principal 1773 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [2] (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)CaracterizeSchoolCaracterizeCG-20-4)Agriculture (storage,production, transporttion of product , etc.)CaracterizeCG-20-1)Sanitary system1(G-20-5)Rehabilitation of roadsCG-20-2)HospitalCG-20-6)CG-20-6)CG-20-7)Electric supplyCG-20-3)OthersCG-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) (G-24) (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

ł	KHETTARA	A DATBASE	
1. Khettara Number G-060 (G-1)	MP	2. Name of commune	Alnif (G-2)
	Taoumart	4. Location of khettara	X = 532402.56 (G-4-1) Y = 68250.07 (G-4-2)
nave knettara water right	76 (G-5-2) families 76 (G-6-2) families	9. Histry of discharge of khettara	2000 juillet: 2.0 litter/sec 2001 juillet: 1.5 litter/sec
	10 (G-7-1) days		2002 juillet: 1.5 litter/sec
	78 (G-8) lit/sec	(I-10)	
10. History of khettara water flow	6 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five ra has water flow, but the disch- recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland	<u>20</u> ha A-1)	12. Irrigated area by the	khettara <u>5</u> ha (IA-3)
13. The condition of roads 2 (G-15	appropriate (1) not appropriate (2)	14.The condition of sch	ools 2 appropriate (1) (G-16) ^{not} appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Agoudal (G-22)
18. Situation of khettara	Length (m)	Section hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	200 (E-1-1-1 400 (E-1-1-2		
Khettara as open channel	0 (E-2-1)	0 (E-2-2	i
Principal and secondary irrigation canal	1865 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation ler khettara	ngth of 120 ((M-7)	m) Rehabilitation lo irrigation canal	ength of principal 880 (m) (M-8)
20. Influence of desertification			agulation pond 2 (LE)
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	<u>2</u> (I-2) Iri ttara <u>2</u> (I-3)	egulation pond <u>2</u> (I-5) rigation canals <u>2</u> (I-7)
21.Demandes of habitants (water reso	, 	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ke against flood 1 (G-19-4) domestic water 2 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultua	I and social support) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)School2(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others(G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettar 1 Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

	· · · · · · · · · · · · · · · · · · ·	
1. Khettara Number G-061 MP	2. Name of commune Alnif (G-2)	
(G-1)		
3. Name of khettara Afrou (G-3)	4. Location of khettara $X = 532028.99$ (G-4-1) Y = 68316.635 (G-4-2)	
5. Number of families who [80] (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 80 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 10 (G-7-1) days	1	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 4 (I-9)	<u> </u>	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [15] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in150 (E-1-1-catchment area and conduit490 (E-1-1-	1) <u>1.3</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)	
Khettara as open channel 113 (E-2-1)	0.4 (E-2-2) 0.4 (E-2-3)	
Principal and secondary1200 (E-4-2-irrigation canal0 (E-4-2-		
19. Rehabilitation Rehabilitation length of 219 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [2] (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)(G-19-6)(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)G-20-1School2(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others(G-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

KHETTARA DATBASE			
1. Khettara Number G-062 (G-1)	MP	2. Name of commune	Alnif (G-2)
3. Name of khettara Tassama (G-3)	amte	4. Location of khettara	X = <u>541753.12</u> (G-4-1) Y = <u>77544.9</u> (G-4-2)
nave knettara water right 6. Number of beneficialies 37 7. Cycle of kehttara water right 10	(G-5-2) families (G-6-2) families (G-7-1) days	9. Histry of discharge of khettara	2000 juillet: 2 litter/sec 2001 juillet: 2.5 litter/sec 2002 juillet: 2 litter/sec
8.Discharge of khettara (latest) 3.09	(G-8) lit/sec	(I-10))
 10. History of khettara water flow (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettai year in the (7)The discha	n the dry season in the past five ra has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland (IA-	40 ha 1)	12. Irrigated area by the	e khettara <u>5</u> ha (IA-3)
	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) not appropriate (2)
	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	hight(m)	
Gallery of khettara (Gallery in catchment area and conduit	<u>300</u> (E-1-1-1 400 (E-1-1-2		
Khettara as open channel [Principal and secondary [irrigation canal [20 (E-2-1) 2000 (E-4-2-1 0 (E-4-2-2		3-1) <u>0.3</u> (E-4-1-1)
19. Rehabilitation Rehabilitation lengt khettara	h of 550 ((M-7)	m) Rehabilitation lirrigation canal	ength of principal 1250 (m) (M-8)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	ent area 2 (I-1) R 2 (I-2) Ir ettara 2 (I-3)	Regulation pond2(I-5)rigation canals2(I-7)
21.Demandes of habitants (water resou Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1)	Yes (1), No (2) Protection di nstruction of public wells for	ike against flood r domestic water Others 1 (G-19-4) (G-19-5) 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 2 (G-20-4)			
Agriculture (storage,production, t	Rehabilitatio		Sanitary system 1 (G-20-5 Hospital 1 (G-20-6 Others 1 (G-20-7
23. Importance of khettara (1) Unique source for both of pota (2) Unique source for irrigition (3) Main source for irrigation	(G-23) ble water and irrigati	on (4) Partial source for (5) Supplementary so (6) Neglected	
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the r (G-24)		(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

KHETTARA DATBASE			
1. Khettara Number G-063	MP	2. Name of commune	Alnif
(G-1)			(G-2)
3. Name of khettara Toufass (G-3)	samam	4. Location of khettara	X = 542271.27 (G-4-1) Y = 75763.51 (G-4-2)
5. Number of families who 5 have khettara water right	4 (G-5-2) families	9. Histry of discharge	2000 juillet: 2.5 litter/sec
	6 (G-6-2) families	of khettara	2001 juillet: 2 litter/sec 2002 juillet: 2 litter/sec
7. Cycle of kehttara water right	9 (G-7-1) days		
8.Discharge of khettara (latest) 1.3	4 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five a has water flow, but the disch recent five years. rge of the khettara is constant rge of the khettara is increased	arge of khettara is reduced each
11. Total area of farmland	65 ha -1)	12. Irrigated area by the	khettara 5ha (IA-3)
13. The condition of roads 1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in catchment area and conduit	600 (E-1-1-1) 1000 (E-1-1-2)		
Khettara as open channel	0 (E-2-1)	0 (E-2-2	e) 0 (E-2-3)
Principal and secondary irrigation canal	1100 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation leng	oth of 400 ((M-7)	m) Rehabilitation le irrigation canal	ength of principal 64 (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchment area2(I-1)Regulation pond2(I-5)Gallery of conduit Open channel khettara2(I-2)Irrigation canals2(I-7)			
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection di nstruction of public wells for	ke against flood 1 (G-19-4) domestic water 2 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)(G-20-1)School2(G-20-4)Rehabilitation of roads1(G-20-2)Hospital1(G-20-5)Electric supply1(G-20-3)Others(G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the (G-24)	reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

KHET	TARA	DAT	BASE

1. Khettara Number G-064 MP (G-1)	2. Name of commune Alnif (G-2)	
	4. Location of khettara X = 541208.85 (G-4-1)	
3. Name of khettara Timarzite (G-3)	$Y = \frac{67158.25}{(G-4-2)}$	
5. Number of families who 55 (G-5-2) families	9. Histry of discharge 2000 decembre: 4 litter/sec	
6. Number of beneficialies 55 (G-6-2) families	of khettara 2001 octobre: 3 litter/sec 2002 juillet: 3 litter/sec	
7. Cycle of kehttara water right 14 (G-7-1) days		
8.Discharge of khettara (latest) 1.74 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 50 ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)	
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 appropriate (1) (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit300 (E-1-1-1 1700 (E-1-1-2)) <u>1.2</u> (E-1-4-1) <u>0.8</u> (E-1-5-1)	
Khettara as open channel [0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary1240 (E-4-2-1irrigation canal0 (E-4-2-2		
19. RehabilitationRehabilitation length of khettara810 (m) (M-7)Rehabilitation length of principal irrigation canal1160 (m) (M-8)		
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catching Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 2 (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)G-20-1Sanitary systemG-20-4Agriculture (storage,production, transporttion of product , etc.)G-20-1Sanitary systemG-20-5Rehabilitation of roadsG-20-2HospitalG-20-6Electric supplyG-20-3OthersG-20-7		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others	

KHETTARA DATBASE					
1. Khettara Number G-065 MP (G-1)		2. Name	of commune	Alnif (G-2)	
3. Name of khettara (G-3)		4. Locatio	on of khettara		2331.25 (G-4-1) 7886.89 (G-4-2)
5. Number of families who have khettara water right9 (G-5-2)6. Number of beneficialies9 (G-6-2)7. Cycle of kehttara water right8 (G-7-1)8.Discharge of khettara (latest)0 (G-8)	families families days lit/sec	9. Histry of khettar	of discharge a (I-10)	1999 juillet: 2000 juillet:	3 litter/sec 2.5 litter/sec
10. History of khettara water flow 6 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (4)No water in the past five years (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased					
11. Total area of farmland [11] ha (IA-1)		12. Irrigat	ed area by the	khettara	0ha (IA-3)
13. The condition of roads (G-15) appropriate not appropriate not appropriate (G-15)		14.The c	ondition of scho	ools <u>2</u> (G-10	appropriate (1) 6) not appropriate (2)
15.Sanitary service 2 appropriate (G-17) not appropriate		16.Facili telecomu	ty of electricity a inication	and 2 (G-1)	appropriate (1) 8) not appropriate (2)
	Yes (1), No (2)	lf yes, Na Associati		(G-22)	
	gth (m) (E-1-1-1)	, r	Sectior hight(m) 7 (E-1-4-		a (average) width (m) 0.5 (E-1-5-1)
catchment area and conduit 470	(E-1-1-2		1.5 (E-1-4-	-2)	0.5 (E-1-5-2)
Principal and secondary <u>600</u>	(E-2-1) (E-4-2-1 (E-4-2-2	· · =	0 (E-2-2) 0.4 (E-4-3- 0 (E-4-3-	-1)	0 (E-2-3) 0.3 (E-4-1-1) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of (I) khettara	0 (M-7)	m) i	Rehabilitation le rrigation canal	ength of pri	ncipal 225 (m) (M-8)
20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open cha	conduit	ttara	2 (I-2) Irri 2 (I-3)	egulation pe igation can	
21.Demandes of habitants (water resources) Rehabilitation of khettara 1 (G-19 Installing pump 1 (G-19 Rehabilitation of irrigation canal 1 (G-19	-2) Cor), No (2) Protection dik of public wells for		ater 1 (G-19-5)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4 Agriculture (storage,production, transporttion of product , etc.) 2 (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-3) 1 (G-20-6) 1 (G-20-7)					
23. Importance of khettara 1 (G-2 (1) Unique source for both of potable water a (2) Unique source for irrigtion (3) Main source for irrigation	,	(5)	Partial source for Supplementary sou Neglected	irrigation urce for irriga	ation
24. Possibility of extension of khettara [1] Yes (1), No (2) If no, the reason [(G-24) (G		(1)Constrai (2)Prohibite	ns in landscape ed by law	(3)Existenc (4)Others	ce of other khettaras

1. Khettara Number G-066 (G-1)		2. Name of commune Alnif (G-2)
3. Name of khettara Ouihlar (G-3)	ne	4. Location of khettara $X = 543673.96$ (G-4-1) Y = 64836.76 (G-4-2)
5. Number of families who 1 have khettara water right	8 (G-5-2) families	9. Histry of discharge 2000: tarie
6. Number of beneficialies 2	7 (G-6-2) families	of khettara
7. Cycle of kehttara water right	7 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland []	35 ha 1)	12. Irrigated area by the khettara [ha (IA-3)
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	2 Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	400 (E-1-1-1) 800 (E-1-1-2)) <u>1.5</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel	<u>300</u> (E-2-1)	0.7 (E-2-2) 0.58 (E-2-3)
Principal and secondary irrigation canal	900 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation leng khettara	oth of 300 ((M-7)	m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	2 (I-2) Irrigation canals 2 (I-7)
21.Demandes of habitants (water reso		Yes (1), No (2)
Rehabilitation of khettara 2 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual	and social support) Yes (1), No (2)
Agriculture (storage,production,	transporttion of proc Rehabilitation	School <u>1</u> (G-20-4) Juct , etc.) (G-20-1) Sanitary system 1 (G-20-5)
23. Importance of khettara 1 (1) Unique source for both of pot (2) Unique source for irrigition (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara 2 Yes (1), No (2) If no, the (G-24)	reason 4	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-067 MP	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Ait Mouhou (G-3)	4. Location of khettara $X = 543673.96$ (G-4-1) Y = 64836.76 (G-4-2)
5. Number of families who [18] (G-5-2) familie have khettara water right	9. Histry of discharge
6. Number of beneficialies 18 (G-6-2) familie	es of khettara
7. Cycle of kehttara water right [8] (G-7-1) days	3
8.Discharge of khettara (latest) 0 (G-8) lit/sec	c (I-10)
10. History of khettara water flow 4 (I-9)	· ·
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ter in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased
11. Total area of farmland 35 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 1 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication1 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1 (G-21) No (2	
18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 400 (E-1-2) 6 800 (E-1-2)	1-1) <u>1.5</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel 300 (E-2-2	
Principal and secondary2400 (E-4-2irrigation canal0 (E-4-2	
19. Rehabilitation Rehabilitation length of [khettara (M-7)	0 (m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	`
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit [2] (I-2) Irrigation canals [2] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 2 (G-19-1) Installing pump 2 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 2 (G-19-4) Construction of public wells for domestic water 2 (G-19-5) Others 1 (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	oort) Yes (1), No (2)
	School 1 (G-20-4) product , etc.) (G-20-1) Sanitary system 1 (G-20-5) ation of roads 1 (G-20-2) Hospital 1 (G-20-6) electric supply 1 (G-20-3) Others (G-20-7)
 23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khettara 	
2 Yes (1), No (2) If no, the reason 4 (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number G-068 -	2. Name of commune Alnif
(G-1)	(G-2)
3. Name of khettara Tamarghoute	4. Location of khettara X = 536779.47 (G-4-1)
(G-3)	Y = 64704.15 (G-4-2)
5. Number of families who 34 (G-5-2) families have khettara water right	9. Histry of discharge 1982: tarie
6. Number of beneficialies 34 (G-6-2) families	of khettara
7. Cycle of kehttara water right 7 (G-7-1) days]
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2 (I-9)	<u> </u>
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [170] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit34 (E-1-1-2000)225 (E-1-1-2000)225 (E-1-1-2000)	
Khettara as open channel 360 (E-2-1)	0.3 (E-2-2) 0.3 (E-2-3)
Principal and secondary 360 (E-4-2- irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social support	
	School 1 (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-069 -	2. Name of commune Alnif (G-2)
(G-1)	
3. Name of khettara Tachoufite (G-3)	4. Location of khettara X = <u>543391.42</u> (G-4-1) Y = <u>58554.08</u> (G-4-2)
5. Number of families who 60 (G-5-2) families	9. Histry of discharge
6. Number of beneficialies 60 (G-6-2) families	of khettara
7. Cycle of kehttara water right 9 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow3(I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in th(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [35] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit300 (E-1-1- 4000 (E-1-1-	
Khettara as open channel [0] (E-2-1)	
Principal and secondary 2650 (E-4-2- irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t [2] (I-2) Irrigation canals [2] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
Agriculture (storage,production, transporttion of pro Rehabilitati	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital (G-20-6)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 24. Possibility of extension of khettara	
(G-24) Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-070	-	2. Name of commune Alnif (G-2)
(G-1)		
3. Name of khettara Takacha (G-3)		4. Location of khettara $X = 500871.59$ (G-4-1) Y = 32965.59 (G-4-2)
5. Number of families who 27 have khettara water right		9. Histry of discharge ⁰
6. Number of beneficialies 25	(G-6-2) families	of khettara
7. Cycle of kehttara water right 6	(G-7-1) days	
8.Discharge of khettara (latest) 0	(G-8) lit/sec	(I-10)
10. History of khettara water flow 5	(I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The dischar	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [IA-1]	15 ha)	12. Irrigated area by the khettara [1]ha (IA-3)
	opropriate (1) ot appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
	opropriate (1) ot appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	Yes (1), (G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in	300 (E-1-1-1) 1800 (E-1-1-2)	
Khettara as open channel	400 (E-2-1)	0.2 (E-2-2) 0.45 (E-2-3)
Principal and secondary irrigation canal	600 (E-4-2-1) 0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length khettara	of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification	allery in catchme allery of conduit ben channel khe	I (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resource	ces)	Yes (1), No (2)
Rehabilitation of khettara 1 Installing pump Rehabilitation of irrigation canal 1	G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual an	d social support) Yes (1), No (2)
	,	School 1 (G-20-4)
Agriculture (storage,production, tra	Rehabilitation	
23. Importance of khettara (1) Unique source for both of potabl (2) Unique source for irrigation (3) Main source for irrigation	G-23) e water and irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the rea (G-24)		(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-071 - (G-1)	2. Name of commune Hsia (G-2)
3. Name of khettara Tighourdine (G-3)	4. Location of khettara $X = 500871.59$ (G-4-1) Y = 32965.59 (G-4-2)
5. Number of families who 50 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 350 (G-6-2) families	of khettara
7. Cycle of kehttara water right (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 2 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [6] ha (IA-1)	12. Irrigated area by the khettara [2]ha (IA-3)
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Ait Ihya oumdussa (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 100 (E-1-1-	· · · · · · · · · · · · · · · · · · ·
catchment area and conduit 600 (E-1-1-	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary 600 (E-4-2-	1) 0.5 (E-4-3-1) 0.3 (E-4-1-1)
irrigation canal (E-4-2-	2) (E-4-3-2) (E-4-1-2)
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara (G-19-1)	Protection dike against flood(G-19-4)
Installing pump (G-19-2) C Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	
Agriculture (storage,production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system (G-20-5)
Rehabilitati	on of roads (G-20-2) Hospital (G-20-6) octric supply (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation 	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
G-24) Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others

1. Khettara Number G-072 (G-1)		2. Name of commune Hsia (G-2)
3. Name of khettara		4. Location of khettara X = 502181.54 (G-4-1)
(G-3)		Y = 33449.51 (G-4-2)
5. Number of families who 1 have khettara water right	60 (G-5-2) families	9. Histry of discharge 0
6. Number of beneficialies 1	50 (G-6-2) families	of khettara
7. Cycle of kehttara water right	9 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow	6 (I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland	20 ha A-1)	12. Irrigated area by the khettara [20]ha (IA-3)
13. The condition of roads [1 (G-15	appropriate (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Ait Ihya oumdussa Association (G-22)
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1) 1000 (E-1-1-2)	
Khettara as open channel	0 (E-2-1)	0 (E-2-2) 0 (E-2-3)
Principal and secondary irrigation canal	800 (E-4-2-1 0 (E-4-2-2	
19. Rehabilitation Rehabilitation ler khettara	ngth of 0 ((M-7)	m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water res	•	Yes (1), No (2)
Rehabilitation of khettara	(G-19-1) (G-19-2) Cor	Protection dike against flood (G-19-4) nstruction of public wells for domestic water (G-19-5)
Installing pump Rehabilitation of irrigation canal	(G-19-2) (G-19-3)	Others (G-19-5)
22.Demandes of habitants (Aglicultua	I and social support	
Agriculture (storage,productior	Rehabilitatio	
23. Importance of khettara (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		
24. Possibility of extension of khettar Yes (1), No (2) If no, the (G-24)	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-073 -	2. Name of commune Hsia
(G-1)	(G-2)
	4. Location of khettara X = 502125.21 (G-4-1)
3. Name of khettara (G-3)	Y = 35920.47 (G-4-2)
5. Number of families who 60 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 450 (G-6-2) families	of khettara
7. Cycle of kehttara water right [3] (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [15] ha (IA-1)	12. Irrigated area by the khettara 10ha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of Ait Ihya oumdussa (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit500 (E-1-1-2) 1000 (E-1-1-2)	1) <u>3</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel 100 (E-2-1)	1 (E-2-2) 0.5 (E-2-3)
Principal and secondary1500 (E-4-2-2)irrigation canal0 (E-4-2-2)	
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro Rehabilitatio Eler	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigtion (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-074 - (G-1)	2. Name of commune Hsia (G-2)
3. Name of khettara Boulamdoud	4. Location of khettara X = 504097.04 (G-4-1)
(G-3)	Y = 34217.29 (G-4-2)
5. Number of families who (G-5-2) famil have khettara water right	9. Histry of discharge 1975 novembre: 3 litter/sec
6. Number of beneficialies 50 (G-6-2) famil	ies of khettara 1978 augt: 0 litter/sec
7. Cycle of kehttara water right 6 (G-7-1) day	S
8.Discharge of khettara (latest) 0 (G-8) lit/se	ec (I-10)
10. History of khettara water flow 2 (I-9))
(2)No water in the last two-decade(6)The kh(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ater in the dry season in the past five years lettara has water flow, but the discharge of khettara is reduced each in the recent five years. scharge of the khettara is constant scharge of the khettara is increased
11. Total area of farmland [10] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads (G-15) (G-15) (1) (3) (1) (3) (1) (3) (1) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes ((G-21) No (2	
18. Situation of khettara Length (m	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 200 (E-1-	1-1) <u>0.8</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
catchment area and conduit [1000 (E-1-	
Khettara as open channel 500 (E-2-	1) 0.5 (E-2-2) 0.5 (E-2-3)
Principal and secondary1000 (E-4-irrigation canal0 (E-4-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	duit <u>3</u> (I-2) Irrigation canals <u>3</u> (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social sup	
	School (G-20-4) product , etc.) 1 (G-20-1) Sanitary system (G-20-5) tation of roads (G-20-2) Hospital 1 (G-20-6) Electric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-075 - (G-1)	2. Name of commune Hsia (G-2)
3. Name of khettara Agoumad (G-3)	4. Location of khettara $X = 503693.3$ (G-4-1) Y = 33890.54 (G-4-2)
5. Number of families who [120] (G-5-2) famili have khettara water right	9. Histry of discharge
6. Number of beneficialies 140 (G-6-2) famili	of khettara
7. Cycle of kehttara water right 12 (G-7-1) day	S
8.Discharge of khettara (latest) 0 (G-8) lit/se	ec (I-10)
10. History of khettara water flow 1 (I-9))
(2)No water in the last two-decade(6)The kh(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ater in the dry season in the past five years nettara has water flow, but the discharge of khettara is reduced each in the recent five years. scharge of the khettara is constant scharge of the khettara is increased
11. Total area of farmland [8] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	2) 14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes ((G-21) No (2	
18. Situation of khettara Length (m	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 200 (E-1-	
catchment area and conduit 1300 (E-1-	
Khettara as open channel 0 (E-2-	· · · · · · · · · · · · · · · · · · ·
Principal and secondary 1000 (E-4-	-2-1) 0.5 (E-4-3-1) 0.5 (E-4-1-1)
irrigation canal (E-4-	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catch	
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	
	tation of roads (G-20-2) Hospital 1 (G-20-6)
	Electric supply 1 (G-20-3) Others 1 (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irr (2) Unique source for irrigtion (3) Main source for irrigation	igation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(4)Others

1. Khettara Number G-076 - (G-1)	2. Name of commune Hsia (G-2)
(6-1)	
3. Name of khettara Talilit (G-3)	4. Location of khettara $X = 503129.95$ (G-4-1) Y = 34081.37 (G-4-2)
5. Number of families who 130 (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 220 (G-6-2) families	of khettara
7. Cycle of kehttara water right 12 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 1 (I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discharge	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [100] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads (G-15) (G-15) (1) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit400 (E-1-1-2 1000 (E-1-1-2	
Khettara as open channel 10 10 (E-2-1)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Principal and secondary2000 (E-4-2-7)irrigation canal0 (E-4-2-2)	
· · · · · · · · · · · · · · · · · · ·	
19. RehabilitationRehabilitation length of khettara(M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchm Gallery of conduit Open channel kho	3 (I-2) Irrigation canals 3 (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
	onstruction of public wells for domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	t) Yes (1), No (2)
Agriculture (storage,production, transporttion of pro Rehabilitatio Elect	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigition (3) Main source for irrigation	ion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-077 MF (G-1)	>	2. Name of commune Hsia (G-2)		
(G-1)				
3. Name of khettara Izougaghine (G-3)		4. Location of khettara $X = 502568.77$ (G-4-1) Y = 36234.83 (G-4-2)		
5. Number of families who 135 (G-5-2)	, 	9. Histry of discharge ⁰		
6. Number of beneficialies 280 (G-6-2) families	of khettara		
7. Cycle of kehttara water right [] 8 (G-7-1) days			
8.Discharge of khettara (latest) (G-8)	lit/sec	(I-10)		
10. History of khettara water flow 6 (I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 				
11. Total area of farmland [80] ha (IA-1)		12. Irrigated area by the khettara [0]ha (IA-3)		
13. The condition of roads 1 appropriat (G-15) not appropriat		14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriat (G-17) not appropriat		16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association (G-21)	Yes (1), No (2)	If yes, Name of G-22		
18. Situation of khettara Len	gth (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit 1000	(E-1-1-1) (E-1-1-2)			
Khettara as open channel 150	(E-2-1)	0.4 (E-2-2) 0.5 (E-2-3)		
Principal and secondary 6000 irrigation canal	(E-4-2-1) (E-4-2-2)			
19. Rehabilitation Rehabilitation length of khettara	<u>100</u> (i (M-7)			
20. Influence of desertification				
20. Inductive of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification Gallery of conduit (I-2) (I-3)				
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water2(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others(G-19-6)				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
Agriculture (storage,production, transporttion of product , etc.) 1 (G-20-1) Sanitary system (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital (G-20-6)				
Electric supply (G-20-3) Others (G-20-7) 23. Importance of khettara 2 (G-23) (G-20-7) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected (6) Neglected				
1 Yes (1), No (2) If no, the reason		(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others		

1. Khettara Number G-078 (G-1)	MP	2. Name of commune	Hsia (G-2)	
3. Name of khettara Tamla	.1+	4. Location of khettara	X = 502808.13 (G-4-1)	
(G-3)			Y = <u>35227.41</u> (G-4-2)	
nave knettara water right		9. Histry of discharge of khettara	1980 novembre: 22 litter/sec 1985 augt: 15 litter/sec	
6. Number of beneficialies 220 (G-6-2) families		1990 augt: 8 litter/sec		
7. Cycle of kehttara water right	9 (G-7-1) days		2000 augt: 2.5 litter/sec	
8.Discharge of khettara (latest)	2.5 (G-8) lit/sec	(I-10))	
10. History of khettara water flow 6 (I-9)				
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased				
11. Total area of farmland [120 ha A-1)	12. Irrigated area by the	e khettara <u>15</u> ha (IA-3)	
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	(G-16) not appropriate (2)	
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)	
17. Existence of Association	2 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)	
18. Situation of khettara	Length (m)	Sectio hight(m)	on of khettara (average))	
Gallery of khettara (Gallery in catchment area and conduit	1200 (E-1-1-1) 1880 (E-1-1-2)) <u>1.5</u> (E-1-4	4-1) <u>0.5</u> (E-1-5-1)	
Khettara as open channel	<u>120</u> (E-2-1)	, <u> </u>	······	
Principal and secondary irrigation canal	6000 (E-4-2-1) 0 (E-4-2-2)		/ i	
19. Rehabilitation Rehabilitation ler khettara	· ` `	, ,	length of principal 1500 (m)	
20. Influence of desertification				
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchment area3(I-1)Regulation pond3(I-5)Gallery of conduit Open channel khettara3(I-2)Irrigation canals(I-7)				
21.Demandes of habitants (water resources) Yes (1), No (2)				
Rehabilitation of khettara1(G-19-1)Protection dike against flood2(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water1(G-19-5)				
Rehabilitation of irrigation canal 1 (G-19-3) (G-19-3)				
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)				
Agriculture (storage,production, transporttion of product , etc.)I(G-20-1)Sanitary systemI(G-20-5)Rehabilitation of roadsI(G-20-2)HospitalI(G-20-6)Electric supplyI(G-20-3)OthersI(G-20-7)				
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected				
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, th	e reason ((1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others	

1. Khettara Number G-079 -	2. Name of commune Hsia (G-2)		
(G-1)			
3. Name of khettara Mimarighene (G-3)	4. Location of khettara $X = 502702.19$ (G-4-1) Y = 34025.79 (G-4-2)		
5. Number of families who8 (G-5-2) families	9. Histry of discharge		
6. Number of beneficialies 100 (G-6-2) families	of khettara		
7. Cycle of kehttara water right 2 (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow (I-9)			
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased		
11. Total area of farmland [1] ha (IA-1)	12. Irrigated area by the khettara [1]ha (IA-3)		
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association 1 Yes (1), (G-21) No (2)	If yes, Name of AssociationAit Ihya oumdussa(G-22)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit300 (E-1-1-2)1200 (E-1-1-2)	1) 0.5 (E-1-4-1) 1 (E-1-5-1)		
Khettara as open channel 200 (E-2-1)	0.5 (E-2-2) 1.5 (E-2-3)		
Principal and secondary irrigation canal 0 (E-4-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-			
19. Rehabilitation Rehabilitation length of 0 khettara (M-7)	(m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	(I-2) Irrigation canals (I-7)		
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.) G-20-1 Sanitary system G-20-5 Rehabilitation of roads G-20-2 Hospital G-20-6 Electric supply G-20-3 Others G-20-7			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others		

KHETTARA DATBASE										
	080	MP		2. Nam	e of con	nmune	Hsia			
(G-	·1)			<u> </u>			(G-2)			
(0	īssamou 3-3)	min		4. Loca	ition of k	hettara	X = Y =			(G-4-1) (G-4-2)
5. Number of families who	50	(G-5-2)	families	9 Histr	y of disc	harde	2000 (octobre:	2.5 litte	r/sec
have khettara water right		,		of khet		naiye	2001 0	octobre:	2 litter/s	sec
6. Number of beneficialies		(G-6-2)		-				juillet: 2 juillet: 1.		
7. Cycle of kehttara water right		(G-7-1)	days				2003 j	ulliet. 1.	37 III.GI/	Sec
8.Discharge of khettara (latest)	1.57	(G-8)	lit/sec			(I-10)				
10. History of khettara water flow	v 6		(I-9)							
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 		(6) ⁻ (7) ⁻	The khettar year in the The discha	ra has wat recent fiv trge of the	ter flow, bu e years. khettara is	the past five ut the discha s constant s increased	arge of k	khettara is	s reduced	1 each
11. Total area of farmland	(IA-1)	45 ha)		12. Irriç	jated are	ea by the	khetta	ıra	(IA-3)	5ha
	2 ap	ppropriate ot appropr		14.The	econditio	on of scho			appropria	ate (1) opriate (2)
		ppropriate ot appropr			cility of e municati	electricity a	and		appropria not appro	ate (1) opriate (2)
17. Existence of Association			Yes (1), No (2)	lf yes, Associ	Name of ation		(G-22	2)		
18. Situation of khettara		Lenç	gth (m)			Sectior hight(m)		ettara (averag width	
Gallery of khettara (Gallery in		80	(E-1-1-1)	2.	.5 (E-1-4	-1)		0.6 (E-	·1-5-1)
catchment area and conduit	<u> </u>	269	(E-1-1-2)	0.	5 (E-1-4	-2)		0.5 (E-	·1-5-2)
Khettara as open channel		0	(E-2-1)			0 (E-2-2)	.)		0 (E-	
Principal and secondary irrigation canal			(E-4-2-1 (E-4-2-2	· .	0.2	5 (E-4-3 0 (E-4-3	3-1)		`	-4-1-1) -4-1-2)
19. Rehabilitation Rehabilitation khettara	on length		50 (M-7)	m)		pilitation le	ength o	of princi		<u>269</u> (m) M-8)
20. Influence of desertification										<u> </u>
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Ga	allery of	catchme f conduit annel khe		2	· · /	-	ion pon n canals	_	(I-5) (I-7)
21.Demandes of habitants (wate	r resourc	ces)		Yes	; (1), No ((2)				
Rehabilitation of khetta Installing pur		(G-19 (G-19		nstructio		otection dil				(G-19-4 (G-19-5
Rehabilitation of irrigation can	^{ial} 1	(G-19	•					Others	6	(G-19-6
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2) School 1 (G-20-4)										
Agriculture (storage,prod	uction, tra		habilitatio		ls 1	(G-20-1) (G-20-2) (G-20-3)	Sanita	ary syste Hospi Othe	em <u>1</u> ital <u>1</u>	(G-20- (G-20- (G-20-
(1) Unique source for both (2) Unique source for irrig (3) Main source for irrigati	ion	(G-2 le water a	,	(4) Partial 5) Suppler 6) Neglect	source for mentary so ted	irrigatic ource for	on r irrigatic	on	
24. Possibility of extension of kh 1 (G-24) Yes (1), No (2) If r	nettara no, the rea				rains in la bited by la	andscape aw	(3)Ex (4)Otl		of other	khettaras

1. Khettara Number G-081 -	2. Name of commune Hsia		
(G-1)	(G-2)		
3. Name of khettara Daou Mejran (G-3)	4. Location of khettara X = <u>531272.07</u> (G-4-1) Y = <u>6318.42</u> (G-4-2)		
5. Number of families who [G-5-2] families have khettara water right	9. Histry of discharge		
6. Number of beneficialies 72 (G-6-2) families	of khettara		
7. Cycle of kehttara water right 8 (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 2 (I-9)			
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased		
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)		
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit600 (E-1-1- 1200 (E-1-1-	1) 0.8 (E-1-4-1) 0.5 (E-1-5-1)		
Khettara as open channel 0 (E-2-1)			
Principal and secondary2000 (E-4-2-irrigation canal2000 (E-4-2-			
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it <u>1</u> (I-2) Irrigation canals (I-7)		
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others(G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)G-20-1)School1(G-20-4)Rehabilitation of roads1(G-20-2)Hospital1(G-20-5)Electric supply1(G-20-3)Others(G-20-7)			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others		

1. Khettara Number G-082 - (G-1)	2. Name of commune Hsia (G-2)
3. Name of khettara Adane (G-3)	4. Location of khettara $X = 521318.05$ (G-4-1) Y = 6218.31 (G-4-2)
5. Number of families who have khettara water right [G-5-2] families	9. Histry of discharge
6. Number of beneficialies 148 (G-6-2) families	of khettara
7. Cycle of kehttara water right 6 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow3(I-9)	
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased
11. Total area of farmland [25] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in 428 (E-1-1-	
catchment area and conduit (E-1-1-2	
Khettara as open channel200200(E-2-1)	0.6 (E-2-2) 0.8 (E-2-3)
Principal and secondary 600 (E-4-2-	1) 0.6 (E-4-3-1) 0.8 (E-4-1-1)
irrigation canal (E-4-2-2	2) 0 (E-4-3-2) 0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification Gallery in catchm	ent area (I-1) Regulation pond (I-5)
(2)Partial damage by desertification (3)Negligible damage by desertification Open channel kho	
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump (G-19-2) Co Rehabilitation of irrigation canal (G-19-3)	onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppor	
Agriculture (storage,production, transporttion of pro	School (G-20-4) oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5)
Rehabilitation	Con of roads (G-20-2) Hospital (G-20-6) ctric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23)	
 (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation 	 (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-25)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others

1. Khettara Number G-083 MP	2. Name of commune Hsia (G-2)		
(G-1)			
3. Name of khettara Takacha (G-3)	4. Location of khettara $X = 520418.29$ (G-4-1) Y = 7122.39 (G-4-2)		
5. Number of families who 48 (G-5-2) familie: have khettara water right	9. Histry of discharge 2000 octoble. 2.5 litter/sec		
6. Number of beneficialies 75 (G-6-2) familie	s of khettara 2001 octobre: 2 litter/sec 2002 octobre: 2 litter/sec		
7. Cycle of kehttara water right (G-7-1) days	2003 juillet: 1.5 litter/sec		
8.Discharge of khettara (latest) 3 (G-8) lit/sec	(I-10)		
10. History of khettara water flow6(I-9)	· ·		
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in t(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased		
11. Total area of farmland 30 ha (IA-1)	12. Irrigated area by the khettara [12]ha (IA-3)		
13. The condition of roads2 appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association 2 Yes (1) (G-21) No (2)			
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit2100 (E-1-1 3000 (E-1-1	-1) <u>1.2</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)		
Khettara as open channel 300 (E-2-1	· · · · · · · · · · · · · · · · · · ·		
Principal and secondary [1500] (E-4-2 irrigation canal [0] (E-4-2			
19. Rehabilitation Rehabilitation length of 500 khettara (M-7)	(m) Rehabilitation length of principal 50 (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel ki	it [1] (I-2) Irrigation canals [3] (I-7)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4)			
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Construction of public wells for domestic water 1 (G-19-5) Others 2 (G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)School1(G-20-4)Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others(G-20-7)			
23. Importance of khettara 3 (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigition (3) Main source for irrigation	ation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others		

1. Khettara Number G-084 -	2. Name of commune Hsia (G-2)
(G-1)	、
3. Name of khettara El Facht (G-3)	4. Location of khettara $X = 525047.12$ (G-4-1) Y = 16244.59 (G-4-2)
5. Number of families who 32 (G-5-2) familie 14 (G-5-2)	9. Histry of discharge
6. Number of beneficialies 32 (G-6-2) familie	es of khettara
7. Cycle of kehttara water right 7 (G-7-1) days	3
8.Discharge of khettara (latest) 0 (G-8) lit/set	c (I-10)
10. History of khettara water flow 2 (I-9)	- ·
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in(4)No water in the past five years(7)The dis	ter in the dry season in the past five years ettara has water flow, but the discharge of khettara is reduced each the recent five years. Echarge of the khettara is constant charge of the khettara is increased
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1 (G-21) No (2	
18. Situation of khettara Length (m) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 300 (E-1-1) 2100 (E-1-1)	
Khettara as open channel 800 (E-2-	
Principal and secondary1200 (E-4-2)irrigation canal0 (E-4-2)	
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel	uit [1] (I-2) Irrigation canals [1] (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
	Protection dike against flood (G-19-4) Construction of public wells for domestic water (G-19-5)
Rehabilitation of irrigation canal (G-19-3)	Others (G-19-6)
22.Demandes of habitants (Aglicultual and social supp	
	ation of roads 1 (G-20-2) Hospital 1 (G-20-6)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irri (2) Unique source for irrigition (3) Main source for irrigation 24. Possibility of extension of khettara	
Yes (1), No (2) If no, the reason (G-24) (G-25)	(1)Constrains in landscape(2)Prohibited by law(4)Others

1. Khettara Number G-085 -	2. Name of commune Hsia (G-2)
(G-1)	
3. Name of khettara Khing (G-3)	4. Location of khettara $X = 508786.05$ (G-4-1) Y = 25765.82 (G-4-2)
5. Number of families who	9. Histry of discharge
6. Number of beneficialies 60 (G-6-2) families	of khettara
7. Cycle of kehttara water right [] 8 (G-7-1) days	
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)
10. History of khettara water flow 4 (I-9)	
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each re recent five years. harge of the khettara is constant harge of the khettara is increased
11. Total area of farmland [35] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit2000 (E-1-1- 2000 (E-1-1-	
Khettara as open channel 400 (E-2-1)	·
Principal and secondary [1400 (E-4-2- irrigation canal 0 (E-4-2-	
19. Rehabilitation Rehabilitation length of	(m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification	
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)
	School (G-20-4)
	oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(4)Others

1. Khettara Number G-086 -	2. Name of commune Hsia (G-2)		
(G-1)			
3. Name of khettara (G-3)	4. Location of khettara $X = 513526$ (G-4-1) Y = 20936.72 (G-4-2)		
5. Number of families who [75] (G-5-2) families have khettara water right	9. Histry of discharge		
6. Number of beneficialies 15 (G-6-2) families	of khettara		
7. Cycle of kehttara water right (G-7-1) days			
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)		
10. History of khettara water flow 3 (I-9)			
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each ne recent five years. narge of the khettara is constant narge of the khettara is increased		
11. Total area of farmland [25] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)		
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)		
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)		
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)		
Gallery of khettara (Gallery in catchment area and conduit1000 (E-1-1- 1300 (E-1-1-			
Khettara as open channel [0] (E-2-1)			
Principal and secondary [800 (E-4-2- irrigation canal [0] (E-4-2-			
19. Rehabilitation Rehabilitation length of [khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)		
20. Influence of desertification			
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	it [1] (I-2) Irrigation canals [1] (I-7)		
21.Demandes of habitants (water resources)	Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)		
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)School(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system1(G-20-2)(G-20-2)Hospital(G-20-6)Electric supply(G-20-3)Others(G-20-7)			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation			
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others		

1. Khettara Number G-087 (G-1)	MP	2. Name of commune Hsia (G-2)	
3. Name of khettara Aachio	:h	4. Location of khettara $X = 510150.16$ (G-4-1) Y = 33676.27 (G-4-2)	
(G-3) 5. Number of families who	00 (G-5-2) families		
have khettara water right		9. Histry of discharge of khettara1979 novembre: 50 litter/sec1985 augt: 25 litter/sec	
	00 (G-6-2) families	1993 augt: 15 litter/sec 2000: 6 litter/sec	
, ,	15 (G-7-1) days	2000. 0 11161/560	
8.Discharge of khettara (latest)	10 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6	(I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years a has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased	
11. Total area of farmland	200 ha A-1)	12. Irrigated area by the khettara [120]ha (IA-3)	
13. The condition of roads 2 (G-15	appropriate (1) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association	2 Yes (1), (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit	450 (E-1-1-1) 3150 (E-1-1-2)) <u>1.2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)	
Khettara as open channel	<u>600</u> (E-2-1)	1 (E-2-2) 0.6 (E-2-3)	
Principal and secondary irrigation canal	2500 (E-4-2-1 1500 (E-4-2-2		
19. Rehabilitation Rehabilitation len khettara	gth of 800 ((M-7)	m) Rehabilitation length of principal <u>600</u> (m) irrigation canal (M-8)	
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	3 (I-2) Irrigation canals 3 (I-7)	
21.Demandes of habitants (water reso	ources)	Yes (1), No (2)	
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Cor (G-19-3)	Protection dike against flood 1 (G-19-4) nstruction of public wells for domestic water (G-19-5) Others 1 (G-19-6)	
22.Demandes of habitants (Aglicultua	I and social support) Yes (1), No (2)	
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)			
23. Importance of khettara 1 (1) Unique source for both of po (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettar 1 (G-24) Yes (1), No (2) If no, the	e reason	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

1. Khettara Number G-088 -	2. Name of commune Hsia (G-2)
(G-1)	
3. Name of khettara Ouvaernoucht (G-3)	4. Location of khettara $X = 507543$ (G-4-1) Y = 39147 (G-4-2)
5. Number of families who [15] (G-5-2) families have khettara water right	9. Histry of discharge
6. Number of beneficialies 40 (G-6-2) fami	lies of khettara
7. Cycle of kehttara water right 5 (G-7-1) day	/S
8.Discharge of khettara (latest) 0 (G-8) lit/s	ec (I-10)
10. History of khettara water flow 2 (I-9)
(2)No water in the last two-decade(6)The kl(3)No water in the last decadeyear i(4)No water in the past five years(7)The di	ater in the dry season in the past five years hettara has water flow, but the discharge of khettara is reduced each n the recent five years. ischarge of the khettara is constant ischarge of the khettara is increased
11. Total area of farmland [10] ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	2) 14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	2) 16.Facility of electricity and telecomunication (G-18) appropriate (1) (G-18)
17. Existence of Association 2 Yes (G-21) No (
18. Situation of khettara Length (r	n) Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit 300 (E-1) Gallery of khettara (Gallery in catchment area and conduit 1900 (E-1)	
Khettara as open channel 0 (E-2	
Principal and secondary1000 (E-4irrigation canal500 (E-4	
19. Rehabilitation Rehabilitation length of khettara (M-7)	0 (m) Rehabilitation length of principal 0 (m) irrigation canal (M-8)
20. Influence of desertification	inigation canal (ivi o)
Gallery in cate	hment area (I-1) Regulation pond (I-5)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in cate Gallery of cond Open channel	duit (I-2) Irrigation canals (I-7)
21.Demandes of habitants (water resources)	Yes (1), No (2)
Rehabilitation of khettara (G-19-1)	Protection dike against flood (G-19-4)
Installing pump (G-19-2) Rehabilitation of irrigation canal (G-19-3)	Construction of public wells for domestic water (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultual and social sup	
Agriculture (storage,production, transporttion of	School (G-20-4) product , etc.) (G-20-1) Sanitary system (G-20-5)
Rehabili	Itation of roads(G-20-2)Hospital(G-20-6)Electric supply(G-20-3)Others(G-20-7)
23. Importance of khettara (G-23) (1) Unique source for both of potable water and in (2) Unique source for irrigation (3) Main source for irrigation	rigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others
(G-24) (G-25)	

KHET	TARA	DAT	BASE

1. Khettara Number G-089 MP	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Fouk Talita (G-3)	4. Location of khettara $X = 510866.73$ (G-4-1) Y = 32022.5 (G-4-2)	
5. Number of families who [149] (G-5-2) families have khettara water right	9. Histry of discharge 2000 juliet. Titter/sec	
6. Number of beneficialies 50 (G-6-2) families	of khettara 2001 octobre: 1.5 litter/sec 2002 octobre: 2 litter/sec	
7. Cycle of kehttara water right 15 (G-7-1) days		
8.Discharge of khettara (latest) 0.5 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khett(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each re recent five years. harge of the khettara is constant harge of the khettara is increased	
11. Total area of farmland [42] ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)	
13. The condition of roads [1] appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit600 (E-1-1- 1800 (E-1-1-	1) <u>1.2</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)	
Khettara as open channel 13.9 (E-2-1)		
Principal and secondary700 (E-4-2-irrigation canal600 (E-4-2-		
19. Rehabilitation Rehabilitation length of 100 khettara (M-7)	(m) Rehabilitation length of principal 400 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4)		
Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 1 (G-19-5) Others 2 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)1(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others(G-20-7)		
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-090 -	2. Name of commune Hsia	
(G-1)	(G-2)	
3. Name of khettara El Hazbane (G-3)	4. Location of khettara $X = 514733.53$ (G-4-1) Y = 26573.92 (G-4-2)	
5. Number of families who [154] (G-5-2) families have khettara water right	9. Histry of discharge 1996 octobre: 1.5 litter/sec	
6. Number of beneficialies 160 (G-6-2) families	of khettara 1997 octobre: 1.5 litter/sec 1998 octobre: 2 litter/sec	
7. Cycle of kehttara water right 12 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 4 (I-9)		
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland45 ha(IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads1appropriate (1)(G-15)not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit90 (E-1-1- 1440 (E-1-1-		
Khettara as open channel [400] (E-2-1)	0.5 (E-2-2) 0.4 (E-2-3)	
Principal and secondary800 (E-4-2-irrigation canal0 (E-4-2-		
19. Rehabilitation Rehabilitation length of khettara (m) Rehabilitation length of principal (m) (m)		
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals 1 (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)G-20-1Sanitary systemG-20-4Agriculture (storage,production, transporttion of product , etc.)G-20-1Sanitary systemG-20-5Rehabilitation of roadsG-20-2HospitalG-20-6Electric supplyG-20-3OthersG-20-7		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-091 -	2. Name of commune Hsia	
(G-1)	(G-2)	
	4. Location of khettara X = 513436.61 (G-4-1)	
3. Name of khettara (G-3)	Y = 1000000000000000000000000000000000000	
5. Number of families who Area (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 24 (G-6-2) families	of khettara	
7. Cycle of kehttara water right [] 8 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 3 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disch	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland [70] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14. The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit800 (E-1-1-2)2700 (E-1-1-2)	1) <u>2</u> (E-1-4-1) <u>0.6</u> (E-1-5-1)	
Khettara as open channel 0 (E-2-1)	0 (E-2-2) 0 (E-2-3)	
Principal and secondary1200 (E-4-2-irrigation canal0 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water1(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others(G-19-6)		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system 1 (G-20-5) Rehabilitation of roads 1 (G-20-2) Hospital (G-20-6) Electric supply 1 (G-20-7) Others (G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-092 (G-1)		2. Name of commune Hsia (G-2)
3. Name of khettara Agoud (G-3)	lim	4. Location of khettara X = <u>512788.78</u> (G-4-1) Y = <u>29449</u> (G-4-2)
5. Number of families who have khettara water right	92 (G-5-2) families	9. Histry of discharge
6. Number of beneficialies	50 (G-6-2) families	of khettara
7. Cycle of kehttara water right	10 (G-7-1) days	
8.Discharge of khettara (latest)	0 (G-8) lit/sec	(I-10)
10. History of khettara water flow	5 (I-9)	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years 	(6)The khettar year in the (7)The discha	n the dry season in the past five years ra has water flow, but the discharge of khettara is reduced each recent five years. rge of the khettara is constant rge of the khettara is increased
11. Total area of farmland [40 ha A-1)	12. Irrigated area by the khettara Oha (IA-3)
13. The condition of roads [(G-15)	appropriate (1)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-17)	appropriate (1) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)
17. Existence of Association	(G-21) No (2)	If yes, Name of G-22
18. Situation of khettara	Length (m)	Section of khettara (average) hight(m) width (m)
Gallery of khettara (Gallery in catchment area and conduit	1100 (E-1-1-1) <u>0.8</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)
Khettara as open channel	2900 (E-1-1-2 300 (E-2-1)) 0.8 (E-1-4-2) 0.5 (E-1-5-2) 0.8 (E-2-2) 0.5 (E-2-3)
Principal and secondary	600 (E-4-2-1	
irrigation canal	400 (E-4-2-2	
19. Rehabilitation Rehabilitation ler khettara	ngth of (M-7)	m) Rehabilitation length of principal (m) irrigation canal (M-8)
20. Influence of desertification		
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	(I-2) Irrigation canals (I-7)
21.Demandes of habitants (water res	ources)	Yes (1), No (2)
Rehabilitation of khettara 1	(G-19-1)	Protection dike against flood 1 (G-19-4)
Installing pump Rehabilitation of irrigation canal 1	(G-19-2) Col (G-19-3)	nstruction of public wells for domestic water 1 (G-19-5) Others (G-19-6)
22.Demandes of habitants (Aglicultua	I and social support) Yes (1), No (2)
Agriculture (storage,production, transporttion of product, etc.) (G-20-1) Sanitary system (G-20-5)		
	Rehabilitatio	
23. Importance of khettara (1) Unique source for both of p (2) Unique source for irrigtion (3) Main source for irrigation		on (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected
24. Possibility of extension of khettar Yes (1), No (2) If no, th (G-24)	e reason	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others

1. Khettara Number G-093 -	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Ait Saadane (G-3)	4. Location of khettara $X = 509352.44$ (G-4-1) Y = 28628.7 (G-4-2)	
5. Number of families who 91 (G-5-2) familie have khettara water right	9. Histry of discharge	
6. Number of beneficialies 95 (G-6-2) familie	of khettara	
7. Cycle of kehttara water right [7] (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	; (I-10)	
10. History of khettara water flow3(I-9)		
(2)No water in the last two-decade(6)The khe(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disc	er in the dry season in the past five years ttara has water flow, but the discharge of khettara is reduced each the recent five years. charge of the khettara is constant charge of the khettara is increased	
11. Total area of farmland 50 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1 (G-21) No (2)		
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit2000 (E-1-1 2300 (E-1-1		
Khettara as open channel [0 (E-2-1		
Principal and secondary200 (E-4-2irrigation canal0 (E-4-2		
19. Rehabilitation Rehabilitation length of khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel k	uit (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social supp	ort) Yes (1), No (2)	
School (G-20-4)		
	oroduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) ation of roads 1 (G-20-2) Hospital (G-20-6) lectric supply 1 (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrig (2) Unique source for irrigation (3) Main source for irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

1. Khettara Number G-094 MP	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Battou (G-3)	4. Location of khettara $X = 509346.33$ (G-4-1) Y = 40832.58 (G-4-2)	
5. Number of families who <u>52</u> (G-5-2) families	9. Histry of discharge	
6. Number of beneficialies 56 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 12 (G-7-1) days		
8.Discharge of khettara (latest) 2 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)	·	
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 		
11. Total area of farmland [160] ha (IA-1)	12. Irrigated area by the khettara [10]ha (IA-3)	
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association 2 Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit 100 (E-1-1-2) 1300 (E-1-1-2)		
Khettara as open channel [10] (E-2-1)	0.2 (E-2-2) 0.5 (E-2-3)	
Principal and secondary160 (E-4-2-irrigation canal0 (E-4-2-2-2)		
19. Rehabilitation Rehabilitation length of 410 khettara (M-7)	(m) Rehabilitation length of principal 640 (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchm Gallery of conduit Open channel khow	(I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1)	Protection dike against flood 1 (G-19-4)	
Installing pump 1 (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	onstruction of public wells for domestic water 2 (G-19-5) Others 2 (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
	School 1 (G-20-4) oduct , etc.) 1 (G-20-1) Sanitary system 1 (G-20-5) on of roads 1 (G-20-2) Hospital 1 (G-20-6) ctric supply 1 (G-20-3) Others 2 (G-20-7)	
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigat (2) Unique source for irrigation (3) Main source for irrigation		
24. Possibility of extension of khettara 1 Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others	

KHETTARA DATBASE			
1. Khettara Number G-095	MP	2. Name of commune	Hsia
(G-1)			(G-2)
3. Name of khettara Khtar (G-3)	t Batt	4. Location of khettara	X = <u>510171.34</u> (G-4-1) Y = <u>38972.5</u> (G-4-2)
5. Number of families who	45 (G-5-2) families	9. Histry of discharge	2000: 1.5 litter/sec
have khettara water right 6. Number of beneficialies	46 (G-6-2) families	of khettara	2001: 1.5 litter/sec
7. Cycle of kehttara water right	8 (G-7-1) days		2002 juillet: 1 litter/sec
· · · ·			
8.Discharge of khettara (latest)		(I-10)	
10. History of khettara water flow	4 (I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(3)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased			
11. Total area of farmland	48 ha IA-1)	12. Irrigated area by the	khettara 0ha (IA-3)
13. The condition of roads (G-1	appropriate (1) not appropriate (2)	14.The condition of sch	ools 1 appropriate (1) (G-16) not appropriate (2)
15.Sanitary service 2 (G-1	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	(G-22)
18. Situation of khettara	Length (m)	Section hight(m)	n of khettara (average) width (m)
Gallery of khettara (Gallery in 400 (E-1-1-1) 1.5 (E-1-4-1) 1 (E-1-5-1)			
catchment area and conduit 1600 (E-1-1-2) 1.5 (E-1-4-2) 1 (E-1-5-2)			
Khettara as open channel 120 (E-2-1) 1 (E-2-2) 0.5 (E-2-3)			
Principal and secondary irrigation canal	1000 (E-4-2-1 0 (E-4-2-2		
19. Rehabilitation Rehabilitation le khettara	ngth of 0 ((M-7)	m) Rehabilitation lo irrigation canal	ength of principal 0 (m) (M-8)
20. Influence of desertification			
(1)Significant damage by desertification(2)Partial damage by desertification(3)Negligible damage by desertification	Gallery in catchme Gallery of conduit Open channel khe	ttara (I-3)	egulation pond (I-5) rigation canals (I-7)
21.Demandes of habitants (water resources) Yes (1), No (2)			
Rehabilitation of khettara 1 Installing pump 2 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Con (G-19-3)	Protection di nstruction of public wells for	ke against flood 1 (G-19-4) domestic water 1 (G-19-5) Others 2 (G-19-6)
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)			
Agriculture (storage,production, transporttion of product , etc.)2(G-20-1)Sanitary system1(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others2(G-20-7)			
23. Importance of khettara 1 (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected			
24. Possibility of extension of khettar 1 Yes (1), No (2) If no, th (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others

1. Khettara Number G-096 -	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Tarichte (G-3)	4. Location of khettara $X = 515786.57$ (G-4-1) Y = 21479.25 (G-4-2)	
5. Number of families who (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 36 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 9 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 2 (I-9)	·	
(1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years(5) No water in the dry season in the past five years (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years (4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased		
11. Total area of farmland [25] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of Association (G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit300 (E-1-1- 800 (E-1-1-		
Khettara as open channel0 (E-2-1)	·	
Principal and secondary irrigation canal 0 (E-4-2-		
	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kh	t (I-2) Irrigation canals [1] (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump 1 (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo	rt) Yes (1), No (2)	
School 1 (G-20-4)		
Rehabilitat	oduct , etc.) (G-20-1) Sanitary system (G-20-5) ion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigition (3) Main source for irrigation	tion (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-097 -	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Tifakhsite (G-3)	4. Location of khettara $X = 523364.77$ (G-4-1) Y = 6031.83 (G-4-2)	
5. Number of families who 30 (G-5-2) families have khettara water right	families 9. Histry of discharge 0	
6. Number of beneficialies 30 (G-6-2) factorial descented as a second se	families of khettara	
7. Cycle of kehttara water right 8 (G-7-1)	days	
8.Discharge of khettara (latest) 0 (G-8) lit	lit/sec (I-10)	
10. History of khettara water flow 3 ((I-9)	
(2)No water in the last two-decade(6)The(3)No water in the last decadeyea(4)No water in the past five years(7)The	No water in the dry season in the past five years he khettara has water flow, but the discharge of khettara is reduced each ear in the recent five years. he discharge of the khettara is constant he discharge of the khettara is increased	
11. Total area of farmland [40] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1 (G-15)		
15.Sanitary service 2 appropriate (1 (G-17) not appropriate		
	(es (1), If yes, Name of No (2) Association (G-22)	
18. Situation of khettara Length	th (m) Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit800 (E 2000 (E	E-1-1-1)1.3 (E-1-4-1)0.5 (E-1-5-1)E-1-1-2)1.3 (E-1-4-2)0.5 (E-1-5-2)	
•	E-2-1) 0 (E-2-2) 0 (E-2-3)	
	E-4-2-1)0.4(E-4-3-1)0.4(E-4-1-1)E-4-2-2)0(E-4-3-2)0(E-4-1-2)	
19. Rehabilitation Rehabilitation length of khettara (M-	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification (3)Negligible damage by desertification	catchment area(I-1)Regulation pond(I-5)conduit(I-2)Irrigation canals(I-7)anel khettara(I-3)(I-3)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)	2) Construction of public wells for domestic water 1 (G-19-5	
22.Demandes of habitants (Aglicultual and social s	support) Yes (1), No (2)	
School (G-20-4)		
Agriculture (storage,production, transporttion Reha	n of product , etc.) (G-20-1) Sanitary system 1 (G-20- abilitation of roads 1 (G-20-2) Hospital 1 (G-20- Electric supply 1 (G-20-3) Others (G-20-	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and (2) Unique source for irrigation (3) Main source for irrigation	3)	
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras (2)Prohibited by law (4)Others	

1. Khettara Number G-098 -	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Ait Said Ou (G-3)	4. Location of khettara $X = 516310.47$ (G-4-1) Y = 28113.85 (G-4-2)	
5. Number of families who 36 (G-5-2) families have khettara water right	9. Histry of discharge	
6. Number of beneficialies 54 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 12 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow3(I-9)		
(2)No water in the last two-decade(6)The khet(3)No water in the last decadeyear in the(4)No water in the past five years(7)The disc	r in the dry season in the past five years tara has water flow, but the discharge of khettara is reduced each he recent five years. harge of the khettara is constant harge of the khettara is increased	
11. Total area of farmland 35 ha (IA-1)	12. Irrigated area by the khettara 0ha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1) (G-21) No (2)	If yes, Name of G-22	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit 500 (E-1-1) 6 800 (E-1-1)		
Khettara as open channel 0 (E-2-1)		
Principal and secondary1800 (E-4-2irrigation canal0 (E-4-2		
19. Rehabilitation Rehabilitation length of [khettara (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel kł	it (I-2) Irrigation canals 1 (I-7)	
21.Demandes of habitants (water resources)	Yes (1), No (2)	
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) C Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood 1 (G-19-4) Construction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social suppo	ort) Yes (1), No (2)	
School (G-20-4)		
	oduct , etc.) (G-20-1) Sanitary system 1 (G-20-5) tion of roads 1 (G-20-2) Hospital 1 (G-20-6) ectric supply 1 (G-20-3) Others (G-20-7)	
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irriga (2) Unique source for irrigation (3) Main source for irrigation		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape (3)Existence of other khettaras(2)Prohibited by law (4)Others	

	· · · · · · · · · · · · · · · · · · ·	
1. Khettara Number G-099 -	2. Name of commune Hsia (G-2)	
(G-1)		
3. Name of khettara Tizi Niziar (G-3)	4. Location of khettara $X = 523398.36$ (G-4-1) Y = 34890.89 (G-4-2)	
5. Number of families who 130 (G-5-2) families	9. Histry of discharge	
6. Number of beneficialies 220 (G-6-2) families	of khettara	
7. Cycle of kehttara water right 12 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 1 (I-9)		
(1)No water from 1950s or 1970s.(5) No water in the dry season in the past five years(2)No water in the last two-decade(6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years.(4)No water in the past five years(7)The discharge of the khettara is constant (8)The discharge of the khettara is increased		
11. Total area of farmland [70] ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads (G-15) appropriate (1) not appropriate (2)	14.The condition of schools 1 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit20 (E-1-1-1 800 (E-1-1-2)		
Khettara as open channel 300 (E-2-1)	0.2 (E-2-2) 0.4 (E-2-3)	
Principal and secondary0 (E-4-2-1)irrigation canal1000 (E-4-2-2)		
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel khe	3 (I-2) Irrigation canals (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump1(G-19-2)Construction of public wells for domestic water1(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)School(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads(G-20-2)Hospital(G-20-6)Electric supply(G-20-3)Others(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-100 -	2. Name of commune Hsia	
(G-1)	(G-2)	
	4. Location of khettara X = 507565.97 (G-4-1)	
3. Name of khettara Ouabrinouch (G-3)	Y = 39133.48 (G-4-2)	
5. Number of families who 12 (G-5-2) families have khettara water right	9. Histry of discharge 1995 novembre: 8 litter/sec	
6. Number of beneficialies 25 (G-6-2) families	of khettara 2000 augt: 0 litter/sec	
7. Cycle of kehttara water right 10 (G-7-1) days		
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)	
10. History of khettara water flow 6 (I-9)		
(2)No water in the last two-decade(6)The khetta(3)No water in the last decadeyear in the(4)No water in the past five years(7)The discha	in the dry season in the past five years ara has water flow, but the discharge of khettara is reduced each e recent five years. arge of the khettara is constant arge of the khettara is increased	
11. Total area of farmland 22 ha (IA-1)	12. Irrigated area by the khettara Oha (IA-3)	
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)	
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)	
17. Existence of Association Yes (1), (G-21) No (2)	If yes, Name of G-22)	
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)	
Gallery of khettara (Gallery in catchment area and conduit200 (E-1-1-1 200 (E-1-1-2) <u>1.5</u> (E-1-4-1) <u>0.5</u> (E-1-5-1)	
Khettara as open channel [1100 (E-2-1)	3 (E-2-2) 0.5 (E-2-3)	
Principal and secondary [1500 (E-4-2-1 irrigation canal [0] (E-4-2-2		
19. Rehabilitation Rehabilitation length of (M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)	
20. Influence of desertification		
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catching Gallery of conduit Open channel khe	3 (I-2) Irrigation canals 3 (I-7)	
21.Demandes of habitants (water resources) Yes (1), No (2)		
Rehabilitation of khettara 1 (G-19-1) Installing pump (G-19-2) Co Rehabilitation of irrigation canal 1 (G-19-3)	Protection dike against flood (G-19-4) onstruction of public wells for domestic water (G-19-5) Others (G-19-6)	
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)		
Agriculture (storage,production, transporttion of product , etc.)School(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)		
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigation (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-24) (G-24)	(1)Constrains in landscape(3)Existence of other khettaras(2)Prohibited by law(4)Others	

1. Khettara Number G-101 - (G-1)	2. Name of commune Hsia (G-2)				
	4. Location of khettara X = 523398.36 (G-4-1)				
3. Name of khettara Anoun Ou Sa (G-3)	Y = 34890.89 (G-4-2)				
5. Number of families who 40 (G-5-2) familie have khettara water right	9. Histry of discharge				
6. Number of beneficialies 50 (G-6-2) familie	s of khettara				
7. Cycle of kehttara water right (G-7-1) days					
8.Discharge of khettara (latest) 0 (G-8) lit/sec	(I-10)				
10. History of khettara water flow 1 (I-9)					
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 					
11. Total area of farmland 40 ha (IA-1)	12. Irrigated area by the khettara [0] _{ha} (IA-3)				
13. The condition of roads 2 appropriate (1) (G-15) not appropriate (2)	14.The condition of schools 2 appropriate (1) (G-16) not appropriate (2)				
15.Sanitary service 2 appropriate (1) (G-17) not appropriate (2)	16.Facility of electricity and telecomunication2 (G-18)appropriate (1) not appropriate (2)				
17. Existence of Association Yes (1) (G-21) No (2)					
18. Situation of khettara Length (m)	Section of khettara (average) hight(m) width (m)				
Gallery of khettara (Gallery in catchment area and conduit600 (E-1-1 300 (E-1-1					
Khettara as open channel 300 (E-2-1					
Principal and secondary1000 (E-4-2irrigation canal0 (E-4-2					
19. Rehabilitation Rehabilitation length of [(M-7)	(m) Rehabilitation length of principal (m) irrigation canal (M-8)				
20. Influence of desertification					
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertificationGallery in catchment area2(I-1)Regulation pond2(I-5)Gallery of conduit Open channel khettara2(I-2)Irrigation canals2(I-7)					
21.Demandes of habitants (water resources) Yes (1), No (2)					
Rehabilitation of khettara1(G-19-1)Protection dike against flood1(G-19-4)Installing pump(G-19-2)Construction of public wells for domestic water1(G-19-5)Rehabilitation of irrigation canal1(G-19-3)Others1					
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production, transporttion of product , etc.)School1(G-20-4)Agriculture (storage,production, transporttion of product , etc.)(G-20-1)Sanitary system(G-20-5)Rehabilitation of roads1(G-20-2)Hospital1(G-20-6)Electric supply1(G-20-3)Others1(G-20-7)					
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected					
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason (G-25) (G-24)	(1)Constrains in landscape(2)Prohibited by law(3)Existence of other khettaras(4)Others				

1. Khettara Number G-102 - (G-1)		2. Name o	f commune	Hsia (G-2)	
	<u> </u>	4 Logation	n of khettara	X =	524362.22 (G-4-1)
3. Name of khettara (G-3)		4. LUCAUUI	1 OF KHELLAFA	X = Y =	32942.9 (G-4-1)
have khettara water right			f discharge		ovembre: 5 litter/sec ugt: 0 litter/sec
6. Number of beneficialies 70 (G-6-2) f	families	of khettara	1	1970 4	
7. Cycle of kehttara water right 6 (G-7-1)	days				
8.Discharge of khettara (latest) 0 (G-8) lit	t/sec		(I-10)		
10. History of khettara water flow 2 ((I-9)				
 (1)No water from 1950s or 1970s. (2)No water in the last two-decade (3)No water in the last decade (4)No water in the past five years (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased 					
11. Total area of farmland [8] ha (IA-1)		12. Irrigate	ed area by the	e khettara	a <u>0</u> ha (IA-3)
13. The condition of roads 1 appropriate (1 (G-15) not appropriat			ondition of sch	(0	appropriate (1) G-16) not appropriate (2)
15.Sanitary service 2 appropriate (1 (G-17) not appropriat		16.Facility telecomur	<pre>/ of electricity nication</pre>	-	2 appropriate (1) G-18) not appropriate (2)
	es (1), o (2)	lf yes, Nar Associatio		(G-22)	
18. Situation of khettara	n (m)		Section hight(m		ettara (average) width (m)
	E-1-1-1)		1 (E-1-4	1-1)	0.5 (E-1-5-1)
catchment area and conduit [800] (E	E-1-1-2)		1.5 (E-1-4	1-2)	0.5 (E-1-5-2)
Khettara as open channel 500 (E	-2-1)		0.5 (E-2-2		0.5 (E-2-3)
Principal and secondary [1000 (E	E-4-2-1)		0.5 (E-4-3	3-1)	0.5 (E-4-1-1)
irrigation canal (E	E-4-2-2)		0 (E-4-3	3-2)	0 (E-4-1-2)
19. Rehabilitation Rehabilitation length of	-7) (n	,	ehabilitation l	-	f principal (m) (M-8)
20. Influence of desertification			C		
(1)Significant damage by desertification Gallery in ca	atchmer	nt area 3	(I-1) R	Regulatio	on pond <u>3</u> (I-5)
(1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification Open channel khettara					
21.Demandes of habitants (water resources) Yes (1), No (2)					
Rehabilitation of khettara 1 (G-19-1) Protection dike against flood 1 (G-19-4)					
Installing pump 1 (G-19-2) Rehabilitation of irrigation canal 1 (G-19-3)) Con	struction of	public wells for		
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)					
Agriculture (storage,production, transporttion of product , etc.) (G-20-1) Sanitary system (G-20-5)					
	abilitation	n of roads ric supply 1	(G-20-2)	Janitai	Hospital (G-20-5) Others 1 (G-20-6)
23. Importance of khettara (G-23)					
 (1) Unique source for both of potable water and irrigation (2) Unique source for irrigation (3) Main source for irrigation (4) Partial source for irrigation (5) Supplementary source for irrigation (6) Neglected 					
			- 0		
24. Possibility of extension of khettara Yes (1), No (2) If no, the reason	(·	1)Constrain	s in landscape	(3)Evie	stence of other khettaras
(G-24) (G-2		2)Prohibited		(4)Othe	

KHETTARA DATBASE						
1. Khettara Number G-103 (G-1)	MP	2. Name of commune	Hsia (G-2)			
3. Name of khettara [Izagar (G-3)	ne	4. Location of khettara	X = <u>502301</u> (G-4-1) Y = <u>36239</u> (G-4-2)			
nave knettara water right	60 (G-5-2) families 50 (G-6-2) families 8 (G-7-1) days	9. Histry of discharge of khettara	1980 novembre: 22 litter/sec 1990 augt: 12 litter/sec 1995 augt: 6 litter/sec 2000 augt: 2 litter/sec			
8.Discharge of khettara (latest)	2 (G-8) lit/sec	(I-10)				
10. History of khettara water flow 6 (I-9) (1)No water from 1950s or 1970s. (5) No water in the dry season in the past five years (2)No water in the last two-decade (6)The khettara has water flow, but the discharge of khettara is reduced each year in the recent five years. (4)No water in the past five years (7)The discharge of the khettara is constant (8)The discharge of the khettara is increased						
11. Total area of farmland	25 ha A-1)	12. Irrigated area by the khettara [25]ha (IA-3)				
13. The condition of roads [1 (G-15)	appropriate (1) not appropriate (2)	14.The condition of sch	nools 1 appropriate (1) (G-16) ^{not} appropriate (2)			
15.Sanitary service 2 (G-17	appropriate (1) not appropriate (2)	16.Facility of electricity telecomunication	and 2 appropriate (1) (G-18) not appropriate (2)			
17. Existence of Association	1 Yes (1), (G-21) No (2)	If yes, Name of Association	Ait Ihya oumdussa (G-22)			
18. Situation of khettara	Length (m)	Sectio hight(m)	n of khettara (average)) width (m)			
Gallery of khettara (Gallery in catchment area and conduit	1000 (E-1-1-1 2920 (E-1-1-2					
Khettara as open channel	80 (E-2-1)	0.4 (E-2-2				
Principal and secondary irrigation canal	<u>3500</u> (E-4-2-1 <u>1000</u> (E-4-2-2					
19. Rehabilitation Rehabilitation ler khettara	ngth of <u>80</u> ((M-7)	m) Rehabilitation I irrigation canal	ength of principal 1000 (m) (M-8)			
 20. Influence of desertification (1)Significant damage by desertification (2)Partial damage by desertification (3)Negligible damage by desertification 	Gallery in catchme Gallery of conduit Open channel khe	3 (I-2) Ir ttara 3 (I-3)	Regulation pond <u>3</u> (I-5) rigation canals (I-7)			
21.Demandes of habitants (water res		Yes (1), No (2)				
Rehabilitation of khettara 1 Installing pump 1 Rehabilitation of irrigation canal 1	(G-19-1) (G-19-2) Con (G-19-3)	Protection di nstruction of public wells for	ike against flood (G-19-4) r domestic water 1 (G-19-5) Others (G-19-6)			
22.Demandes of habitants (Aglicultual and social support) Yes (1), No (2)						
Agriculture (storage,production	Rehabilitatio		School 1 (G-20-4 Sanitary system (G-20-5 Hospital 1 (G-20-6 Others 1 (G-20-7			
23. Importance of khettara (G-23) (1) Unique source for both of potable water and irrigation (4) Partial source for irrigation (2) Unique source for irrigition (5) Supplementary source for irrigation (3) Main source for irrigation (6) Neglected						
24. Possibility of extension of khettar Yes (1), No (2) If no, th (G-24)	e reason	(1)Constrains in landscape (2)Prohibited by law	(3)Existence of other khettaras (4)Others			